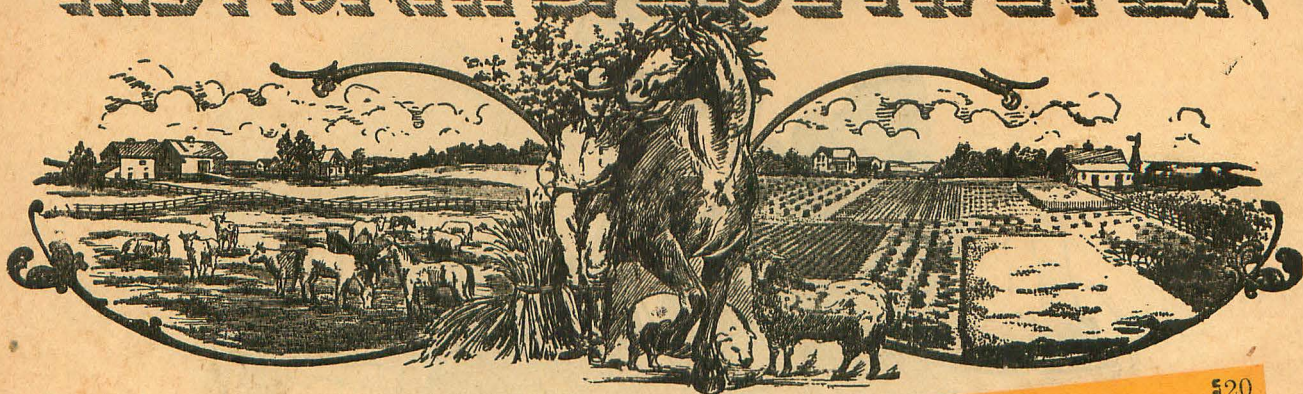


# THE NORTH DAKOTA FARMER



75 Cents A Year

Alex Alin

\$20

Lisbon, N. D.

February 15, 1917

Vol. 18, No. 8

## OUR CHILDREN

The Most Valuable tho Often Most Neglected "Live Stock" on the Farm. In what Direction is Your District Traveling?



978.4  
N814  
Graham





## Which Will You Have

Here are two cans of Paint.

Both are exactly the same size.

One will cost you \$2.75 per gallon. The other will cost perhaps as little as \$1.75 per gallon, but the Mound City Horse Shoe Brand at \$2.75 per gallon will cost you less in the end.

Reason? Simple enough.

Because a gallon of "Horse Shoe Paint" will cover a larger surface than the cheaper grade, and fewer gallons are required for the job. By actual test you will find that six gallons of "Horse Shoe Paint" (enough for two coats on a house measuring 2100 square feet) will go as far as ten gallons of the \$1.75 kind.

In other words, you invest \$16.50 in "Horse Shoe Paint," against \$17.50 in the cheaper grade.

Not only this, but the Horse Shoe Brand is bound to outwear the other two to one, making the Horse Shoe Brand far more economical in the end.

You save on the total cost of material. You save in labor, because of the long life of the Horse Shoe Brand.

You save once more in the satisfaction of knowing that your property is beautified and protected with the highest quality of painting material that modern skill and science has yet developed.

AGAIN!! Mr. Property Owner—

Which will you have?

### Mound City "Horse Shoe Brand" Paint

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Paint, Hardware, Lumber and Drug Stores

Write for name of your nearest dealer

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# THE NORTH DAKOTA FARMER

Vol. 18, No. 8

LISBON, N. D., FEBRUARY 15, 1917

75 Cents a Year

## The Percheron Draft Horse and His Breeding

An Address Made by Louis Aveline, French Army Horse Inspector, before the Kansas State Draft Horse Breeders' Association, Feb. 9, 1917.

In France everybody is a soldier. In case of war, everybody is mobilized and must defend his fatherland. At the beginning of the war, after the mobilization, I went to the Belgian border. But I had to leave on account of sickness. After three weeks in a hospital I was sent to the United States to buy horses, not to deliver addresses. However, I could not refuse the kind invitation of the Kansas State Horse Breeders' Association, and I asked from my chiefs a permission which was gladly granted.

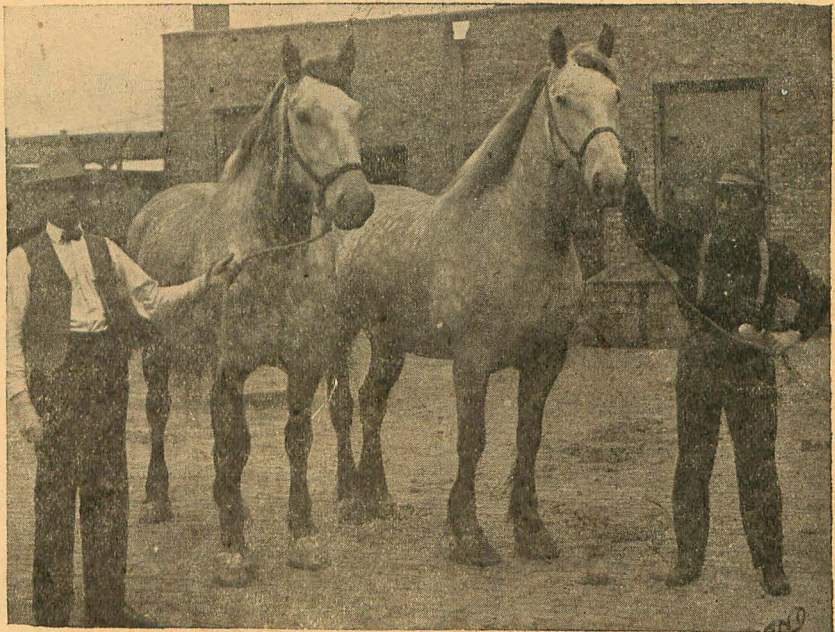
In time of peace, gentlemen, I am like you, a breeder, a breeder of Percherons, and for this reason I was invited to address you. My father also was a breeder, and President of the Societe Percheronne of France. Born and raised among Percherons in Le Perche, amid farmers, I am glad to find myself with you today. It is with great pleasure that I shall let you know what we are doing on the other side of the water, both in the interest of France and Le Perche. If my country is now a battlefield, it is, however, necessary to think of tomorrow, and to make you familiar with our breeding industry and our resources for the future.

First, I must tell you about the horses I have seen in this country. Fourteen years ago, I visited the United States, and for the last twenty-eight months I have been back on inspection for my government. I found a great improvement in the breeding establishments, and I was surprised at the quality of the horses. In the beginning the needs of the war had compelled us to buy cavalry horses. We found them in Montana, Wyoming and Texas; a few in the east; that is, Virginia, Kentucky and Tennessee. Unfortunately, the western horses were a little wild and small. Later, our needs were especially for artillery and transport horses. Particularly in Iowa, Kansas, Nebraska and in the western states, Oregon and Washington, we found very good artillery horses.

The allies have bought nearly 1,000,000 horses in the United States, mostly artillery. The artillery horses that we buy are from 1100 to 1200 pounds in weight, many of them are of Percheron descent, while among the heavy artillery, or transport horses, which must weigh more than 1300 pounds, are found horses from all breeds. But, even in this class, we prefer descendants from Percherons, because with their bulk and heavy bones they always have energy and action which are not found in the

grey horse is too visible on the battlefield. But do not reject them for that reason. The war will not last forever, and when the grey colts, which are born now, will reach the age when they can be sold, then the demand will not be for war horses, and at this time they will take grey horses indifferently. Again, nothing is more beautiful than a fine team of dapple-grey horses. I have seen, among others, the Fire Department of Buffalo, which uses almost exclusively magnificent grey horses, which attract the attention of everybody in the streets. "The South Americans, who are also good customers for Le Perche, do not buy anything but grey horses, claiming that they stand better the work and the heat. \* \*

In France, breeding is not conducted as it is in America. It is taken up by districts. In the South, they raise the thoroughbred and Arabian breeds,



"Again, nothing is more beautiful than a fine team of dapple-grey horses"

descendants from the other breeds. They can trot, and even gallop, causing many of my fellow officers in active service to say: "Those horses are extraordinary; they gallop like thoroughbreds." They go even farther and they say that all grey horses (which proves that they are related to Percherons) are acceptable. It is true, I am sure, that it in this color that we find the greater proportion of our best horses. Unfortunately, we cannot accept them all, because the

in the East and North, the draft horses, in the North-West the coaches, in Le Perche, the Percheron horses. Each district has its specialty. In Le Perche you will not find, as in America, breeders keeping both stallions and mares. The man who sells to the exporters, and whom we shall call the stallioner, has not even the mares. The mares are on the little farmer's land. At breeding time, stallions, belonging precisely to the people who make a specialty to sell



for export, are taken from one farm to another for the breeding, which begins about February first and is kept on until June 25th. A farmer with a 100- or 120-acre farm could do all his work with three or four mares. But he always has five or six, so that they do not work too much. The proportion of mares in foal, with this daily but not excessive work, is about 75%. The colts then are born between February and June. The mare keeps on working up to the day of foaling. For about a week after the birth of the colt, the mare is kept with him in the stable. Then she goes back to work, being out about two hours in the morning and two hours in the afternoon. As soon as the colt is a few weeks old, and there comes a less rainy day, (I stated above that we have heavy rainfalls,) they place the mare when she has no work to do, in the pasture with her colt, and as soon as the weather is a

sometimes as much as \$400 for them, but they are taken to the stallioner's farm only when they are six months old, at weaning time. The stallioner has a large farm, mostly grass, the area of which varies from 400 to 500 acres. After the colts are weaned, they are placed in those pastures, by lots of about ten according to the size of the pasture. They are fed on oats, twice a day. The oats are given under a shed, but the colts are never locked up. They go about as they like. From that time, they stay outside day and night until they are 30 months old, when they are sold for exportation. \* \* \* \*

In the choice of stallions, we put less importance than the Americans on the weight. When you speak of a good horse here, they always ask: "How much does he weigh?" You will never hear that in France. If we have heavy Percherons, we produce them by selection, no more no less

find a ready market. I know several firms in Chicago and New York who have used tractors for a while and have returned to horses. It is true that if you breed small horses such as I saw in Texas, Wyoming and Montana, you will not find any market for them. But since the war has helped those ranchers to get rid of those too small animals let them now breed their mares to draft stallions, preferably Percherons Horses, as, according to the opinion of many breeders, the Percheron horse is the best subject for crossing purposes. The proof of this is that all other countries now want to imitate North America, for we sell Percherons to South America, Japan and Russia. Even England, this year, has bought Percheron stallions and mares to exploit them at home, a fact which will surprise Shiremen and Clydemen, knowing the jealousy of Englishmen for all their pure bred.

\* \* \* I believe that you must not be content with using only your animals born and raised in this country, but you must continue to infuse imported blood. \* \* \* \*



Community Club listening to a lecture on the draft horse

little better, they are left outside day and night. The colt is taken in only during the working hours of the mare. There is no time, no age to begin to feed the colt. When the mare is working, she has oats when she comes back from her work. The colt begins to eat by himself, and after he has reached a certain age, the farmer takes advantage of the absence of the mother to give extra food to the colt, mostly oats. After that time, the colt is never without oats.

Some farmers, and particularly the stallioners who prepare the horses for export, buy those foals, males only. Each big stallioner knows practically all the mares in the county. He knows by which stallion she has been served, he knows the line on the dam's and on the sire's side, and he buys those foals from the farmer. The price is pretty high. We pay

than to meet the demand of the American market, because we find that the bigger the horse, the more apt to be lymphatic and slow it is. \*

In regard to the selection of a stallion, I cannot insist too much on his line of breeding. The best horse does not always produce the best colts. But the best family of horses almost always give the best results.

\* \* I am sure that the exportation of Percheron horses to America must continue to take place, I shall even say more and more, altho the breeders are afraid of the competition of the tractor. Opinions differ on this subject. For instance, I read in the Breeder's Gazette for December, 1916, an article written by a big breeder of Percheron horses in Canada, who is also a very big farmer. He says that the tractor is more expensive than a good draft horse, which can always

## NEW ZEALAND FLAX FIBER THE FUTURE SOURCE OF TWINE

Charles Cristadoro, Pt. Loma, Cal.

*Continued from last Issue*

All of this information obtained, a set of samples was prepared to await the coming of Mr. Daniels, manager of the fiber department of the International Harvester Company, manufacturing many thousands of tons of binder twine annually. In company with Mr. P. M. Price, the local representative of the company, Mr. Daniels called upon me in my lath-house. One by one he examined my samples, remarking that my Kentucky hemp samples were far too valuable to go into binder twine, when so finely processed should sell for \$600 to \$800 per ton, especially in these days of fiber hunger all thru the East.

### Wonderful Offer Made

He finally came to a sample of the New Zealand flax. He knew about it, but our samples were different. Most carefully did he test each sample and the result is shown in the following letter from the Harvester Company:

Chicago, Nov. 23, 1916.

Mr. Charles Cristadoro,  
San Diego, California.

Dear Sir:

We offer you 9 cts. per lb. F. O. B. San Diego or Los Angeles, Cal., for 500 tons of New Zealand fiber, qual-



ity equal to the sample you furnished us. If this 500 tons of fiber proves to be satisfactory in quality, we are ready to follow it with an order for 10,000 tons, at a price equal to that of Yucatan Sisal. We have in our possession the sample of New Zealand flax which you delivered to Mr. Price, which we are holding as representing the grade which you are to produce and ship to us under this arrangement.

We hope you will succeed in interesting the farmers of your state in the cultivation of this plant known as New Zealand flax. If, as appears probable, it will grow successfully in California, it will certainly become a very profitable crop. You need have no fear regarding a permanent market. The United States uses in the manufacture of cordage more than

1,000 tons of this type of fiber daily, and the consumption is increasing.

Very truly yours,  
D-P By H. L. Daniels, Mgr.

The romance in the case is that a captain of industry should call upon me and tender me an order for nearly \$2,000,000 worth of New Zealand flax fiber with not a single growing ton of it available in the entire United States, altho thousands of these plants for ornamental purposes are growing in California. Yet by going to it and planting it we can within the next two or three years plant and grow thousands upon thousands of tons of it.

Here was where the commiserated friend of our schoolboy days came in, Tantalus punished by Jupiter, for could this order be filled at the most generous allowance for growing and processing, it would make the inventor more than a millionaire over night; and this is but a sample order, so to speak; only a few days' supply out of the many many thousands of tons said to be manufactured annually. Certainly, this is a business romance with a Tantalus-like sequel.

All that is necessary is to plant the thousands of acres of rich lands in our Southern California valleys, Imperial valley and the San Diego county valleys as instances, with this wonderful fiber growth, to wait a matter of two years, at most three to give the plants time to mature, and to harvest fifty tons or more, perhaps, to the acre. An Arabian night's dream or a reality, which? Time alone can tell.

#### Possibilities Unlimited

But this is only the beginning, the agricultural end of it. And when the rancher has grown his flax and harvested it, then the score or more of manufacturers take hold and the spinning and weaving of linen, various cloths and canvasses begin; the

manufacture of rope, cordage, twines, thread, binder twine, automobile material and a score of kindred products are manufactured. The Japanese are making silk material from Phormium Tenax fiber, illustrative of its possibilities.

The control of the binder twine situation would be in American hands; and binder twine in connection with this general manufacturing proposition may be considered but a mere speck in fiber space, despite the fact that annually Yucatan

## GOOD SEEDS

Ten of the Finest Vegetables **FOR 25c** we will mail one large packet each of the following Vegetables in a coupon envelope. This coupon will be good for 25c worth of seeds selected from the Catalog on any other order for 75c worth of seeds.

Bradley's Earliest Radish; crisp and brittle  
Bradley's Early Egyptian Turnip Beet; blood red  
Bradley's Earliest of All Lettuce; very crisp  
Bradley's Imp. Early Jersey Wakefield Cabbage  
Bradley's Earliest of All Blood Red Tomato  
Bradley's Best Sweet Corn; delicious  
Bradley's Perfection Long White Spine Cucumber  
Bradley's Mammoth Prizetaker Onion  
New York Imp. Spineless Egg Plant  
Improved Mammoth Ruby King Sweet Pepper

25c buys all the above and in addition we will send one large packet "Spencer Sweet Peas" a mixture of 10 varieties; regular price 15c.

**Big Illustrated Catalog FREE**  
**Illinois Seed and Nursery Co.,**  
140 Main St. Makanda, Ill.

## I Want to Send You My New 1917 Seed Book FREE



For 30 years I have furnished seeds of highest quality. Thousands of customers attest to this fact. They know my seeds—their growing and yielding qualities. They know of my honest methods. My seeds must make good or I will. 30th annual catalog now ready.

### Lists All Kinds Farm, Garden and Flower Seeds

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Drawer 80, Madison, Wis.



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Get our low delivered estimate on your house and barn bills. You inspect lumber before paying.

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## Get My Price—FIRST

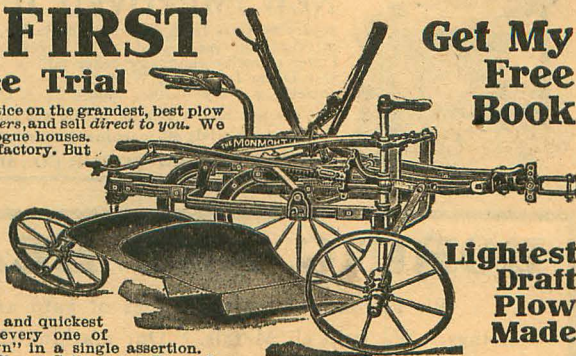
Freight Prepaid—30 Days' Free Trial

I want to quote you a price that will cause you to sit right up and take notice on the grandest, best plow that ever turned a furrow. I can do it because we are the actual manufacturers, and sell direct to you. We don't have traveling salesmen—don't sell to dealers nor even to catalogue houses. You save those expenses and profits when you order direct from our factory. But that isn't all. You get a better plow. I say to you that the

## MONMOUTH Sulky or Gang PLOW

will prove easier for you to handle, easier on your horses and will do your work better than any plow you can buy, regardless of price. Tell you why the draft is lighter. It's positively the only plow that actually carries the beams on top of the frame. No pressure on bottom of furrow—no friction against bank of land, can't be, for there's no land side. Has Direct Beam Hitch, Single Ball and Horse Lift; and "Point First" action, which is easiest and quickest going into and coming out of the ground. I'll give you a chance to prove every one of these claims, and we'll pay the "damages"—freight both ways—if we "fall down" in a single assertion.

I want to tell you all about these plows and our other implements—Walking Plows, Cultivators, Tongueless Disc Harrows, Spike Tooth Harrows, Harrow Carts, Harrow Attachments for Plows, Grain Drills and Farm Gates—all sold at factory prices. Satisfaction guaranteed. Just write a postal for our complete catalog. It's free. Write to me, **The Plow Man**, with



**Lightest Draft Plow Made**

**MONMOUTH PLOW FACTORY, 628 South Main St., Monmouth, Illinois**



sends us about one million bales of sisal of 500 pounds each, worth in the New York market, say \$50,000,000. And like the ticking of a clock sisal is advancing a cent at a move.

The Northwestern wheat farmer knows too well all about this sisal and tells about an air tight trust in Yucatan beyond the reach of the Sherman law financed from this side by American bankers; and the wheat farmer wants congress to take a hand and run down these bankers. But this is not the kind

of relief the wheat farmer really wants.

The Lord helps those who help themselves and the only way to get from under this trust is to grow our own binder twine and under control on American soil. There is no other practical way. And once we have begun to produce New Zealand flax in appreciable quantities, say in two or three years from now, its effect upon the sisal market will be pronounced and the time will come when the New Zealand flax will have entirely supplanted the Yucatan sisal growth, so far as binder twine is concerned. California will be able to make money out of this home grown binder twine material when sisal is being sold in New York at cost or even at a loss. Manila hemp will not be able to compete.

The henequin or sisal green leaf yields three to three and one-half per cent of fiber; the manila but one to two per cent. Sisal yields about 1000 pounds of fiber per acre, which is on an average 250 pounds more than the yield of tow-free Kentucky hemp fiber per acre grown under average Eastern conditions, whilst the New Zealand flax, in its native land, produces fifty tons of leaves per acre and a yield of 12 to 14 per cent of fiber, when properly processed. What this plant will produce under the forcing sun of Southern California per acre, no one knows. One experienced grower estimates 100 tons, but he is an enthusiast and yet he claims he is right and says time will prove him so.

The suggestion is made that because of the immense growth of this flax it be spaced 8 by 6 feet. This would permit of cotton, Kentucky hemp or other crops being cultivated during the maturing of this growth, to be finally discarded when the cutting of the flax begins.

Once this growth is well ground

ed in California nothing can prevail against it, even Yucatan foreign cheap labor.

It would seem as if the U. S. department of agriculture, in its seed distribution efforts, might import from New Zealand and Australia at the cost of digging the roots or crowns, plus the freight, a few hundred tons of bulbs or roots and seed (it is of the lily family and it is said exposing the roots to the weather does not harm them) and distribute these thruout the great Southwest. It would be building better than it knew by giving an impetus to this growth.

And so the fertile plains and irrigation dams are awaiting this flax and without question the incomparable growth is to enrich the ranchers who have the enterprise and foresight to plant it. New Zealand flax, Phormium Tenax.

There is more to be said whereof there is not room to write here and now, but I am always (of necessity) "at home," and to the really interested and forward-looking man who wants to know more about it, the door of my lath house is always open and the mail man delivers letters twice a day. I have no time whatever for the idle curious in person or thru the mail.

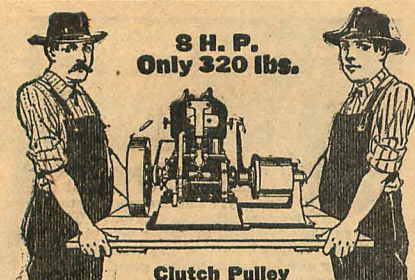
#### A COMMUNICATION

N. D. Farmer:

I am living in California for my health but am living off wheat grown in North Dakota. I am a user of binder twine and, like every other wheat farmer, every time the sisal trust puts on the screws and jumps the price, as they have just done, four cents per pound, I wince. It hurts. You look around for a remedy and there is no remedy, so far.

Going to Congress and pleading to have the American bankers punished, who loaned ten millions of dollars to the Mexicans that made this Yucatan trust possible, would be like hunting coyotes on the open prairies with a brass band and a club.

California is to solve this sisal problem, but not for two or three years, as it will take that time, by the



**8 H. P.  
Only 320 lbs.**

**Clutch Pulley**

### Pick It Up and Walk Off

Did you ever see any other 8 H. P. Engine two men could carry? Cushman engines are the lightest weight farm engines in the world—easy to move around and put to work anywhere. No longer necessary to put up with old-style, back-breaking, heavy weight engines, with their violent explosions and their fast and slow speeds. The Cushman weighs only about one-fifth as much, per horsepower, but with its modern design, accurate balance and Throttle Governor, it runs much more steadily and quietly.

### Cushman Light Weight Engines

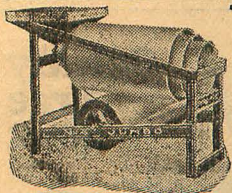
**40 to 60 lbs. Per Horsepower**

The 4 H. P. weighs only 190 lbs. Mounted on iron truck, as shown below, it may be pulled around anywhere. Besides doing all other work, it may be attached to moving machines in the field, such as grain and corn binders, potato diggers, etc., driving the operating part and leaving the horses nothing to do but pull the machine out of gear. 8 H. P. 2-cyl. weighs only 320 pounds.

Sizes up to 20 H.P. Not cheap engines, but cheap in the long run. Book free.

**4 H. P. Truck**

**CUSHMAN MOTOR WORKS**  
881 North 21st Street  
Lincoln, Nebraska



### NEW IMPROVED JUMBO

The best grader for all kinds of grain, separates Oats from Wheat and Barley, and Mustard from Flax; cleans all kinds of Grass Seed. The sieves are large and well made. Has a larger capacity than any other mill of its size or price. Our new Wild Oat Drum for taking Wild Oats out of tame Oats fits in any Jumbo—something every Farmer should have, clean seed Oats.

Do not buy a cleaner before getting full particulars from us.

Sent on trial; all machines guaranteed. Send for Catalog "A"

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We rebores and ream all sizes of auto and gas engine cylinders fitting same with larger pistons and rings. We weld all Metals. Our machine shop is equipped to handle both large and small work. Send your next job to.

**DAKOTA WELDING AND MANUFACTURING COMPANY**

203-5th St. N. : : : FARGO, NORTH DAKOTA : : : Telephone 926



most energetic, action to get a crop of New Zealand flax in the hands of the binder twine manufacturers. We can grow this New Zealand flax in California as it has never grown in New Zealand. If they, by cultivation in New Zealand, grow fifty tons of fibre leaves to the acre, we in California in the Imperial Valley, can grow at least 100 tons of leaves per acre.

There are no problems but one and one only in connection with the dissolution of this sisal trust, and that problem is the inducing of the Government to lend a hand, and to import a few hundred tons of these roots, that can be had for the digging and freight, from New Zealand and Australia where millions of these plants grow wild.

The solution therefore of this trust problem is the growing of our own raw material for binder twine, and we can grow enough in the Imperial Val-

ley of this flax to supply the entire world with binder twine fiber. It is simply up to the farmers of wheat to bear down hard on their Representatives in Washington, to convince the Government that this should be done.

Sisal is now \$290 per ton in New York, from a normal price of \$120 per ton. Any day it may jump \$100 more a ton and no doubt may go to 25 cents per pound in New York be-

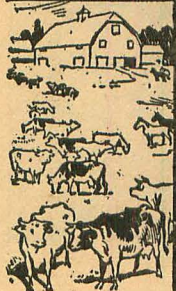
fore the next harvest gets around, and if the wheat farmers don't want this to go on for succeeding years, then

### Driver Agents Wanted

Ride in a Bush Car. Pay for it out of your commissions on sales, my agents are making money. Shipments are prompt. Bush Five-Pass., 30 H. P. 32x2 1/2 tires

Write at once for my 48-page catalog and all particulars. Address J. H. Bush, Pres. Dept. 1DG, BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois

**160 ACRE FARMS IN WESTERN CANADA FREE**



### Canadian Farmers Profit From Wheat

The war's devastation of European crops has caused an unusual demand for grain from the American Continent. The people of the world must be fed and wheat near \$2 a bushel offers great profits to the farmer. Canada's invitation is therefore especially attractive. She wants settlers to make money and happy, prosperous homes for themselves by helping her raise immense wheat crops.

#### You can get a Homestead of 160 acres FREE

and other lands at remarkably low prices. During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to acre. Wonderful crops also of Oats, Barley and Flax. Mixed farming as profitable an industry as grain raising. The excellent grasses full of nutrition are the only food required for beef or dairy purposes. Good schools, churches, markets convenient, climate excellent.

Military service is not compulsory in Canada, but there is an extra demand for farm labor to replace the many young men who have volunteered for the war. The Government is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or

W. E. BLACK, Clifford Block, Grand Forks, N. D.  
Canadian Gov't Agt.



### Don't Miss This!

I have a special offer for you. Nothing like it ever made. Drop a postal about my elegant premium. Time limit, March 10. W. G. Crocker, Lisbon, N. D.

## Feeding Wormy Stock LIKE Throwing HIGH PRICED Feed to the Winds



**THOUSANDS WRITE:—  
"Sal-Vet Saved My Live Stock"**

"I have fed SAL-VET to four horses, one of which had grown very thin, and was infested with worms. Before I had fed it 60 days, he gained two hundred pounds, on the same feed."

WILLIAM G. WASHBURN,  
Hopewell, N. Y.

"I had 300 lambs badly infested with stomach worms and considerably run down. Put them on SAL-VET and they made a gain of 40 lbs. per head. I'll never be without SAL-VET."

W. S. PATTON,  
Plattsburg, O.

"I had one pig that did not seem to get any good from its feed and I would have taken \$3.00 for it. After feeding it SAL-VET for six weeks I sold it for \$11.50."

HARRY BABB,  
Rt. No. 1, Goshen, Ind.

"All summer I have been feeding SAL-VET to a number of my hogs. I have not lost a single hog, but my neighbors all around here have lost hundreds of their hogs."

W. T. HUCKSTEP,  
Denison, Iowa  
(274)

Animals that are full of worms can't thrive. Not only that, but they are liable to contract dangerous disease—infest your entire herd and finally be the means of wiping out all your livestock. Again, feeding worm-sick, worm-infested animals is like throwing high priced feed away.

The worms consume more than your live stock. That's why they won't gain; why they are rough coated, stunted, unprofitable. They need a worm-destroyer and conditioner

**SAL-VET**

**Saves your stock from the ravages of blood-sucking, disease-breeding, feed-eating worms**

It saves your feed—makes your stock thrifty, healthy, profitable, by ridding them of these pests and letting them get full benefit of their feed. SAL-VET is the medicated salt which has saved thousands of dollars for farmers—not only saved their animals, but saved feed, time and labor, so often wasted on worm-sick stock. You ought to protect yourself against such loss. Let me show you how surely and cheaply you can do it with SAL-VET.

### Valuable Live Stock Book FREE

Tell me how many head of stock you have, and the name and address of your dealer and I'll send the book FREE. I'll also tell you where and how you can get enough SAL-VET to feed your stock 60 days and have your money refunded if SAL-VET fails to do all I claim. SAL-VET costs only 2 1/2¢ a month for each hog and sheep and only 10¢ a month for each horse, mule or head of cattle. You take no risk whatever. Mail the coupon to me NOW. Address

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**THE FEIL MFG. CO., Chemists**  
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Dealers sell SAL-VET at above prices, but in the far West and South they charge a little more—freight charges being more.

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Send me your FREE BOOK on care of live stock. I have.....hogs.....sheep..... horses and mules.....cattle.



let the farmers now begin by helping themselves. The remedy is here in California, if the wheat farmers will induce their Representatives in Washington to act, so if every grower of wheat would take up this and write his Washington Congressman, something in the way of progress would be done.

M. O. HALL.

#### COUNTY AGENT WORK IN NORWAY 75 YEARS AGO

In the following editorial Wallace's Farmer brings out the fact that county agricultural agents were employed in Norway 75 years ago.

Every once in a while we are impressed anew with the truth of the old adage, "There is nothing new under the sun." During the past four or five years there has been a move-

ment thruout the United States to establish local agricultural advisers. The plan has been for the business men and farmers of a county to get together and raise some money to employ the services of a man who is well informed on scientific agriculture, who will have headquarters at a central point in the county, and be prepared to advise with the farmers of that county concerning crops, livestock, better methods of farming, etc. The United States government, feeling the need of better methods of farming, has encouraged this movement by appropriating large sums of money. When the people of a county feel that they wish to employ an expert, and raise some money of their own for that purpose, the government joins with them and contributes some government money to help pay his expenses.

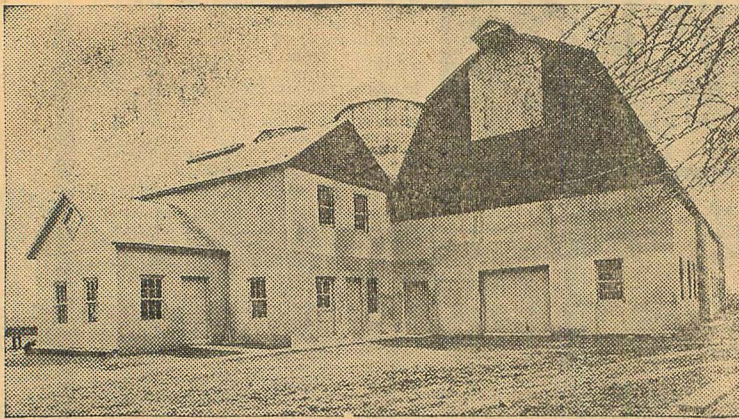
Most people have looked upon this movement as a new thing. We happened to be reading the other day in a book called "A Happy Boy," written by a Norwegian author named Bjornson, who wrote during the middle of the last century. This particular story was printed in a Christiania newspaper in 1859-1860, and printed in book form a year later.

It is a very simple story of a farm boy who fell in love with a farm girl. He felt himself at a disadvantage because he was the son of a poor farmer, and did not have as nice clothes nor the social advantages of the neighbor boys, who were also paying court to the girl. He felt that the only thing for him to do was to learn something that the others did not know, and make a place for himself. In talking with the girl one day, on one of the rare occasions when they were able to get together,—for like many other lovers, they had opposition to overcome—she said:

"Is it true that you are trying for the post of district inspector?"

"Yes, and I shall get it, too. I have a double object in that; first, to make a position for myself, and after that, and more especially, to accomplish something that your grandfather can see and appreciate. It is a lucky thing that most of the owners of the hill farms are young people who want improvements and are seeking help. So I shall begin there. I will look after everything, from their cow house to their irrigation channels. I shall give lectures and keep things going, I shall, so to speak, besiege the old man (her grandfather) with good work."

In these few words, this young man outlines the duties of a district inspector, or, as we say, a county adviser. With the stimulation of his love for the girl, and his ambition to



## Build Your Barn Like This

Your dairy barn can be kept as clean and odorless as your kitchen.

Build the foundations of concrete. Carry them up far enough to support a reinforced concrete floor over your stock, *for fire protection.* Build a concrete floor for the stock, *because it is easiest to keep clean, and not slippery.* Build concrete gutters, *to save liquid manure and lead it to a concrete manure pit.* Build concrete mangers, *to keep feed and water clean.*

Concrete dairy barns are light. They are warm in winter and cool in summer. Contented, healthy, money-making cattle live in concrete barns.

Our barn specialists will help you solve your farm building problem. Write our Farm Bureau today. Learn how concrete can be used on the farm as well as in such massive structures as the Panama Canal Locks and Roosevelt Dam.

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PITTSBURGH  
Farmers Bank Building  
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Northern Bank & Trust Bldg.

## CONCRETE FOR PERMANENCE



show her grandfather that he was worthy of her, he went to the agricultural college, and studied for two or three years. The exact time is not plain. Then he came back and realized his ambition. He became a district agricultural inspector.

The book is a very simple story of the life of this boy up to the time when he realized his ambition and became the husband of the girl of his love. So we are not given details as to just what a district inspector did. His triumph comes a year or so after he has come back, when the old grandfather finds the labor of taking care of his farm burdensome and "eats humble pie" by going to the boy for help. First, he talks with the schoolmaster, who asks him how his farm is getting on. He replies that it is going down hill like himself. The schoolmaster says: "Your neighbors are getting on well, Ole." To which Ole replies: "Yes, they have that inspector of agriculture to help them," from which we see that the young man was making good as a county adviser even in the mind of this hard old grandfather.

The most interesting thing about the whole matter to us is that in this country we are just now learning what the Norwegians were practicing at least seventy-five years ago. That we have been so long in learning, this one thing is due, in part at least, to our extreme self-sufficiency. Too many of us in this country have the notion that we know more than anybody else about many things, and among them agriculture. If we would, with open minds, study some of the agricultural practices of the countries in Europe, no doubt we would find many other things to be learned from them.

#### FEEDS

When the cow is giving a large quantity of milk, supply nearly one-half of the protein, carbohydrates and fat required in the grain part of the ration, except in cases of forced production when a somewhat larger percentage of concentrates may be profitably used.

It is all important that the cow relish her feed. Feed her both roughage and concentrates.

To be economical, a considerable part of the ration must be of a succulent nature.

Where feed is rather scarce it will be advisable to plant soiling crops for cows.

Sorghum and corn are the surest and best crops for soiling purposes.

If feed is short, sell part of the herd and give those remaining full rations.

In calculating a cow's feed, figure on

one pound of grain to every two and one-half to three pounds of milk produced, and all the roughage she will eat.

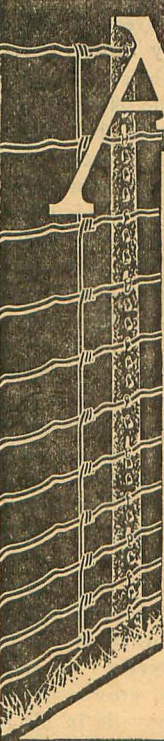
The ration for a beef steer for one day is about 20 pounds of dry matter per 1,000 pounds liveweight. This should contain about 16 pounds of digestible matter, 1.25 to 1.75 of which is digestible protein. Under average conditions 100 pounds of grain should

be obtained from 150 pounds stover, or about the same of silage, 325 pounds of hay, and 775 pounds of corn.

#### AGENTS WANTED

In small towns and country. Take orders for fruit and ornamental trees. No outfits for sale. Start you absolutely free.

CARMEN NURSERY CO.  
Department K. Lawrence, Kans.



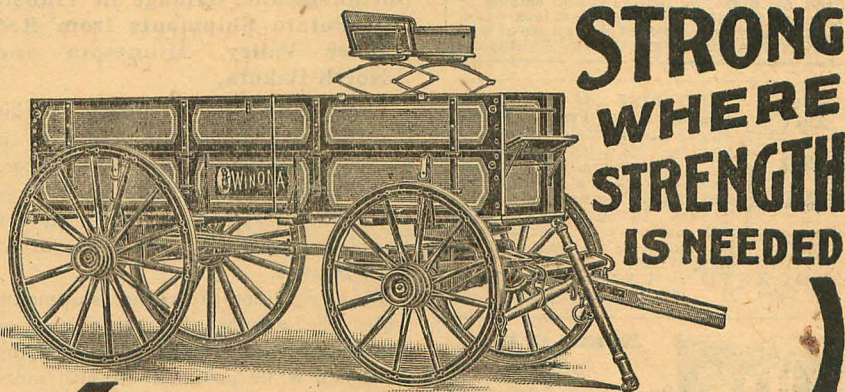
## American Fence

Woven with a mechanically hinged joint. Big, full gauge wires—full weight—full length rolls. Superior quality galvanizing—proof against hardest weather conditions.

American Steel Fence Posts last a lifetime. Hold fence secure against all conditions.

*Dealers Everywhere*

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**STRONG  
WHERE  
STRENGTH  
IS NEEDED**

**WINONA** Wagons have extra protection at points of greatest strain. Outer bearing axles bring load up against wheels, preventing break-down and insuring light draft. Clipped gears. Bent and double riveted Felloes. Strongest Skeins and Poles. Re-inforced Hounds—Built-to-last Boxes. Iron Clad Hubs when ordered.

### WINONA FARM WAGONS

**STRONGEST** and lightest running. "Good timber and bone dry" with highest grade ironing and quality painting. The wagons you can depend on to carry your heaviest loads without the annoyance and expense of frequent breakdowns.

*Write for  
Catalogue F*  
it tells why Winona  
wagons lead them all.

**Winona Wagon Company, Winona, Minn.**



## POTATO DEPARTMENT

H. O. Werner, Sec'y. N. D. Potato Assn.

### THE MEETING AT FARGO

The North Dakota Potato Growers' Association met at Fargo in the Commercial Club Rooms on Thursday, January 18th. The meeting was addressed by Dr. Boyle, specialist in marketing with the Experiment Station. He gave an account of the work being done by other potato associations and concerning the possible awaiting of an association in North Dakota. A Board of Directors consisting of seven men was elected at the meeting.

It was decided to employ a competent manager, to conduct the business of the association as soon as a suitable man could be located.

The requirements of membership are that all members be potato growers.

**For Sale:** Twelve Hundred Bushels Early Ohio Seed Potatoes. Run over a two inch screen. I have won for three successive years Grand Championship North Dakota Pure Seed Show. Price, \$2.25 per bu. f. o. b. Larimore, N. D. Peter J. Fagot, Forest River, N. D.



You can be sure of the highest possible price for

**Hides, Furs, Pelts, Etc.**

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**Northwestern Hide and Fur Co.**

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Send for quotation price list and catalog of Trappers Supplies. We give a good luck watch for free for every shipment or purchase of \$5.00 or over. Reference: Any bank in Minneapolis



**PRICE LIST** and book of valuable information Free. Tells best way to care for hides intended for tanning. We own and operate the largest custom tannery in the country, tanning hides into robes, coats and leather, direct for farmers. In business since 1894 and under same management. For quick service and best tanning, Write:

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....To....

**McMillan Fur & Wool Co.**  
Minneapolis, Minn.

Write for Prices,

FREE TRAPPERS GUIDE to those who ship to us.



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**FURS AND HIDES**

For spot cash, 10% to 50% more money to you to ship Hides and Furs to us than to sell at home. Write for Price List, Shipping Tags and about our 450 page **HUNTERS' & TRAPPERS' GUIDE** 2nd Edition 510,000 Book. Best book on subject ever written. Illustrates all fur animals. All about Trappers' Secrets, Decoys, Traps, Game Laws. How to become a successful trapper. A regular encyclopedia. Price \$2.00. To our customers \$1.25. Hides tanned into robes. Prompt returns and highest market prices guaranteed for your hides, furs, wool, tallow, pelts and beeswax. **ANDERSCH BROS., Dept. 37. MINNEAPOLIS, MINN.**

ers. The initial membership fee is \$10 with annual dues of \$1.00 per year thereafter.

### A PHASE OF THE POTATO MARKETING PROBLEM

H. O. Werner, Sec'y N. D. Potato Association

The superiority of North Dakota potatoes for seed purposes and for table use is commonly recognized and is often emphasized by those interested in potatoes. With such a good product to market, the North Dakota potato grower should be able to command the market. However, such is not the case, for as a general rule he must take whatever price is offered him. Shipping facilities and marketing conditions on the big potato markets are often very unsatisfactory for the potato grower. The grower is continually accusing the commission man of fraud, of which he is not guilty in many cases, the cause for the poor conditions of the potatoes on reaching the market being due either to the grower or the railroad. Furthermore, this poor condition is most generally real and not fictitious. The following article sent out by the Office of Markets of the United States Department of Agriculture, written after a careful study of the potato shipping industry at both ends, will show many growers where some of the trouble may lie in his individual case.

### Shrinkage and Damage in Transit of Potato Shipments from Red River Valley, Minnesota and North Dakota.

Explanation and discussion of this question would not be necessary if every grower and shipper of potatoes could spend just one day on a large terminal market, either early in the shipping season, or after frost, or at both seasons.

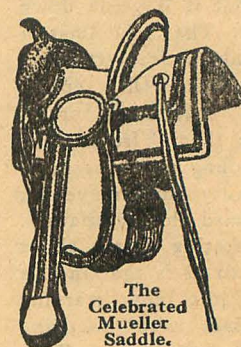
First, consider the earlier shipments while the weather is still warm, or days warm and nights cool,—digging is rushed while potatoes are still more or less immature, weather changeable and subjecting stock to unfavorable conditions. Being immature, skins are torn and stock more or less bruised in handling and sacking and loading; however, grower or shipper

## MINNESOTA FARM FOR SALE

160 acres good clay loam land 3 miles from Leonard, Beltrami County, Minnesota. On state road, 1 mile to school and church. 40 acres under cultivation, balance fenced for pasture. House, barn, granaary and other buildings in good condition. Scandinavian settlement. A bargain at \$30 per acre on easy terms. Write for particulars to

**CLAYTON C. CROSS,**  
18 Markham Bldg., Bemidji, Minn.

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The Celebrated Mueller Saddle.

Our latest Swell Fork Saddle, 14-inch swell front, 28-in. wool-lined skirt, 3-in. stirrup leather, rig, made of best oak leather, guaranteed beef hide covered solid steel ork.

**THE FRED MUELLER**

Saddle & Harness Co., Dept. R. 1413-15-17-19 Larimer St. Denver, Colo. Send in your name for our catalogue now ready.



## READ THIS

There must be a reason why there is such a demand for Justin's Boots. If you are going to wear boots, why not wear the best? Yours for the Best Cowboy Boots Made. Send us your address on a postal card and we will send you our catalogue, and self-measuring system.

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**H. J. JUSTIN & SONS**

Mfgs. of Justin's Celebrated Cowboy Boots. **NOCONA, TEXAS**

## As the Twig is Bent

Uncle Will's Magazine furnishes clean and attractive reading for boys and girls. 50 cts. a year. Send for free sample copy today; it will pay **THE ROTARY, LISBON, N. D**

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It's profitable, with accurate lists of prospects. Our catalogue contains vital information on Mail Advertising. Also prices and quantity on 6,000 national mailing lists, 99% guaranteed. Such as:

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Write for this valuable reference book; also prices and samples of fac-simile letters. Have us write or revise your Sales Letters.

Ross-Gould, 230 Olive St.

**Ross-Gould**  
Mailing Lists St. Louis



gets this stock into the cars in apparent good condition and feels that he is shipping a very fine car of potatoes.

Shipment usually goes forward in a box car, sometimes with all doors closed tight, or at the best, with insufficient ventilation. We will say the car is on the road one week. The stock becomes heated, may be only slightly, but enough to start decay in bruised and cut potatoes, and this decay continues, more or less, all according to weather conditions, and the car finally arrives at destination, is opened and inspected by consignee and naturally and properly rejected. Consignee may estimate that there is a peck of decayed potatoes to the sack, but that is not the only damage to be considered—such potatoes as have decayed have made otherwise sound stock unmerchantable until reconditioned by washing or other brushing, and all this work means considerable expense and usually new sacks, or else stock must be sold in bulk to peddlers, etc.

#### **Frost,—Field and in Transit**

Many shippers will load a car of field frosted potatoes without knowledge of condition, while at other times after field stock has been damaged by frost, it is run over sorting tables and a car of apparently choice potatoes is loaded and started forward, probably in a refrigerator car, which at such season is full protection against frost in transit, however, after the probable week enroute, and upon inspection shows up more or less damage by field frost, car is rejected and shipper advised. With exception of experienced shippers, such condition is impossible, because the potatoes were all sorted before loading, and consignee is again unjustly and unfairly denounced.

The real fact of the whole matter is that regardless of the sorting—once, twice or three times, it still remains a car of field frosted potatoes, and it makes little difference at how low a price a car of frosted potatoes is bought, the buyer is working against odds that will mean loss.

There are probably very few commodities, damaged by heat or frost, which are as treacherous as potatoes when it comes to estimating the extent of damage, and it is very certain that loss, rather than profit attends the handling of a majority of cars of frosted potatoes.

Potatoes frosted in transit are not always as treacherous as field frost, and can usually be reconditioned at less expense. Frequently frost in transit only damages stock around edges of car and at doors. Such a car can be handled without great

loss if handled quickly, however, delay in unloading and sorting will increase the loss.

Few growers and shippers would recognize their own shipments except by car number, upon arrival at destination. Even a car loaded with good stock, in good condition and going thru on schedule time does not look the same, upon inspection at destination. The car is loaded with full sacks, piled in order, and of even weight; it arrives with loose sacks, no exact order, and a difference of 2 to 5 and sometimes 10 pounds in weight, according to season. Shrinkage on sacked stock ranges from 2 to 5 per cent and on bulk stock 5 to 10 per cent. Stock out of condition varies according to decay or other damage in addition to the usual natural shrinkages.

There are, of course, always some unscrupulous commission men, but it is comparatively easy to find the best ones, who are the only ones to be dealt with, and with them the grower will invariably get a square deal. If any grower will accompany a car of potatoes to one of the big markets he will be well repaid for the expense of his trip, by the knowledge he will gain of the men and the mar-

ket and of how he can market his crop more efficiently.

The separator method gets 25% more cream from the milk than the old method. A well made separator will last for years. It pays with four cows.

**OUR 1917 PRESENT  
TO CUSTOMERS**



**A Real Surprise**

That will delight all flower lovers—learn about this from our new illustrated catalog. Tells how to reduce living expenses with a good garden. Describes biggest money maker for the farm and all about the shrubs and trees we sell direct to our customers at wholesale prices. Send at once for this valuable book and Gift box offer—no charge.

**Farmer Seed & Nursery Co.**  
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## **DURUM WHEAT WANTED**

We are in the market for a few cars of choice

**DURUM WHEAT also MILLET SEED**

in either car lots or small shipments. Mail samples for our bid.

**FARGO SEED HOUSE**

**Fargo,**

**North Dakota**

## **Reboring and Grinding of Cylinders**

**This is the time to fit up your steam engines and  
gas tractors for the coming season**

We can rebores and grind your cylinders, fit new oversize pistons and rings, make and fit new crank pins, straighten shafts, bore and bush gears and clutches or do any kind of machine work. Refuel boilers and replace stay bolts. We carry in stock all sizes of stay bolts, patch bolts, bracket bolts, rivets, boiler flues, stay-bolt taps and boiler taps, shafting, shaft hangers, cast iron pulleys, woodsplit pulleys. Write and let us quote prices on any work you have.

**Craig Brothers, Fargo, N. D.**

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Telephone 554 W.



# North Dakota Farmer

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**O. O. CHURCHILL C. B. WALDRON**  
**H. O. WERNER**

Remittance may be made by draft, check, money  
order, or stamps if it will accommodate.

**Vol. 18 FEBRUARY, 1917, No. 8**

Alkali sections of the farm are very undesirable. The best remedy is to plow deep after fertilizing heavily.

Since it has been learned that the barberry bush helps to develop rust in the spring wheat a war on the barberry is in order.

Plan now to swat the weeds. There are three crops that will assist you to down weed oats, a grass crop, a corn crop or alfalfa.

What about that silo you have been planning to build? A silo on a farm is a sign of progress and prosperity.

Have you organized a loan association in your vicinity? The opportunity is at hand. It is just as easy to incorporate a loan association as a farmers' elevator.

Many of our farmers are making use of the Canadian field pea as a hog feed. The best success is obtained when one bushel of oats is sown with two bushels of peas.

The record of Segis Fayne Johanna in producing 50.68 pounds of butter in seven consecutive days makes the record of some of the "boarder" cows very conspicuous.

No class of stock is more susceptible to kind treatment than sheep and quiet gentle handling of the flock will have a good influence on the coming crop of lambs.

Why not cure your own meat? Thus you may have the profits of the local dealer, the livestock buyer, the commission merchant, the wholesaler, the transportation company and the packer.

Nothing affords us greater pleasure than to receive inquiries from our readers. All inquiries are referred to specialists who take as much pleasure in answering the inquiries as we do in receiving them.

Whitewash the barn at least once a year. It will add to its appearance, sanitation and lightness.

Trees on the farm will be appreciated by the live stock, as well as by the birds. Besides, they add materially to the value of the farm. If each farmer were to plant each year as many trees as he is years old, what a change would he made in the landscape!

The farmer faces a most serious condition. The sisal trust has the grain farmer within its clutches. Read the article by Chas. Cristadoro and the letter by M. O. Hall, formerly of Mohall, N. D., then urge your congressman to take action in this matter.

With a very little effort the farmstead may be made attractive. If you do not owe it to yourself, you certainly do to your community and township. A few trees, shrubs and flowers will very frequently make presentable and even beautiful the humblest of buildings.

Put up a silo next season if you have not one already, either above ground or below ground, wood or cement or stone. With home grown seed you can depend upon a crop of corn sufficiently ripe for silage, and there is nothing better than silage to keep cattle in good condition.

The strawberry, currant, compass cherry and gooseberry do well in this climate. The family that is not supplied with these fruits in the garden misses many of the good things of life, unless they send away fifteen hundred miles for them at exorbitant prices. Plan to set out a few of each.

If there are fairly favorable conditions the coming season we predict the largest per capita income ever received from the farms in North Dakota. There has been an abundance of snow and the ground was in excellent condition at the beginning of winter. Besides, prices will undoubtedly be higher than ever.

Seed the wheat early. At the Langdon sub-station nearly 20% less wheat was raised per acre on land that was seeded May 19 than on that seeded on April 19. Indeed a difference of a few days in the time of seeding may determine whether the crop is a success or a failure.

Bear this in mind: It takes more than enthusiasm and loyalty to the cause of agriculture to make just laws for the farmers. The other states of the Union are watching closely the North Dakota legislature. Let us show our sister states that we are constitution-respecting, as well as law-abiding.

It is desirable to have dairy cattle in a barn by themselves to avoid odors being imparted to milk.

Do not overwork the team during the first week of spring and thereby impair their efficiency during the rest of the season.

The North Dakota Farmer is absolutely independent of any society, party or propaganda. It depends entirely for its existence upon the money received for subscriptions and advertising. Its mission is to build up, not tear down or vilify. We appreciate the kind words received from our subscribers, but you cannot show your appreciation any more effectively than by patronizing the advertisers, of course, mentioning the North Dakota Farmer. They are high class.

As the manufacturer cannot succeed if his plant is idle a portion of the time, so the farmer, by devoting six months of the year to the grain crop and the rest of the time watching the elements and trembling for fear his one crop will turn out a failure, cannot hope to meet with continued success. Adding a field of corn and another of potatoes the farmer himself, as well as the horses on the farm, can be kept busy a part of the spring and summer, while livestock will give him plenty to do during the winter months.

We are furnishing this month thru the courtesy of the Banker-Farmer a little "lecture" to our readers in the form of a cartoon on the front cover. For many years farmers of North Dakota have failed to receive fair returns for their wheat. Thru excessive dockage, unfair grading and the manipulation of gamblers they have not received just returns for labor expended. Would that they might be equally aroused on account of their failure to obtain value received for the amount spent in the one room school. They certainly would be aroused if they could put a cash value on the advantages their children are receiving as they can upon the wheat-check. In this case no one is to blame but themselves.

## A PRIZE PUZZLE

A year's subscription to the North Dakota Farmer and to the Illustrated Review, the wonderful photogravure magazine, will be given for five envelopes you have received from the five advertisers in whose ads the following words are found: "Don't make any mistake in the satisfaction of knowing that your property has saved thousands of dollars for the farmers, besides doing all other work, according to the animal's health." Answer with envelopes must reach the North Dakota Farmer before March 20.



# Livestock Department

## FARM AND STOCK NOTES N. J. Shepherd

Success in any vocation means doing it well.

Sheep require the investment of but a small amount of capital.

Sheep are the quietest and easiest handled of all farm stock.

A certain ranginess and roominess is necessary in a brood sow.

promise and an attempt to produce a general purpose horse is a delusion.

With all classes sacrificing essential points for non-essential points should never be done in raising stock.

The best bred hog of the best breed in the world cannot give his owner something for nothing.

The better a cow is fed up to her limit of capacity to assimilate the greater will be the profit.



This Carload of Steers Received the Highest Price Ever Paid

Good action will sell any horse if he has any kind of conformation.

Pedigree is not a proof of perfection it is only proof of the animals' breeding.

The amount of fat in milk comes from the breed and not from the feed.

Those qualities that make a good driving horse will nearly always make a good coach horse.

Horses that are bitted properly, drive much more pleasantly than those which are used promiscuously.

Graceful carriage and stylish action are the leading qualifications in the coach or carriage horse.

A general purpose horse is a com-

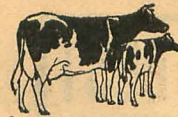
Pedigrees are all right and good hogs have good pedigrees but do not make the pedigree superior to the hog.

A good pedigree is a fine thing provided the animal that goes with it has the individual with it to back it up.

The entire profit in breeding is frequently sacrificed by shipping a horse to market out of condition or but partially harness broken.

Sheep being fattened for market in winter will bear much closer confinement and warmer quarters than ewes intended for breeding purposes.

Quality in form, disposition and general conformation must be coupled



## Purebred Registered HOLSTEIN CATTLE

The preliminary report of tests covering the period since 1909, and just published by the Iowa Agricultural Experiment Station, states that the average of records made by first generation heifers by a purebred Holstein sire, shows an increase of 71 per cent milk and 42 per cent fat, at an average age of three and one-half years, over the record of their scrub dams at an average age of 6 years. These dependable reports show very plainly that the introduction of a purebred Holstein bull to a herd of common cows will materially increase production and profits. There's big money in the big "Black and White" Holsteins.

Send for FREE Illustrated Descriptive Booklets  
Holstein-Friesian Association of America  
F.L. Houghton, Sec'y Box 267, Brattleboro, Vt.

## ENVILLA STOCK FARM

Cogswell, N. D.

Will quote you special prices at any time on Angus Cattle, Feeding and Breeding Sheep, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat, Bird Dogs and other breeds, Angora Cats. All varieties of chickens turkeys, geese, ducks, guineas, pheasants, rabbits ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

## Bixby's Red Polls

My herd bull, J. D. Merryweather, No. 24396, is the son of J. D. Millie, A. R. Grand Champion cow at Minnesota and Montana, in the 1915 show-ring and won the milk and butter contest with Guernseys, Jerseys and Brown Swiss competing with records of 600 pounds butterfat. J. D. Millie weighed 1280 pounds at thirty months old, and is full sister to the World's Champion two-year-old heifer. J. S. BIXBY, : : LISBON, N. DAK.

HOLSTEIN AND GUERNSEY HEIFER AND BULL CALVES. Choice selected promising dairy calves, practically pure Holstein and pure Guernsey, but not registered, nice color. \$20.00 each, all express paid to any point in North Dakota and adjoining states. Order two, you will be so well pleased you will want more.—Meadow Glen Yards, Whitewater, Wis.

## JEAN DU LUTH FARM A. R. Guernseys and Red Polls!

Our Motto:  
"Correct Type Together With High Production"  
Our Herds number 270 pure breeds  
Write for pedigrees of our \$200.00 bulls  
Jean Du Luth Farm  
Geo. P. Grout, Managing Owner  
Duluth : : : : Minnesota

## Holstein Calves

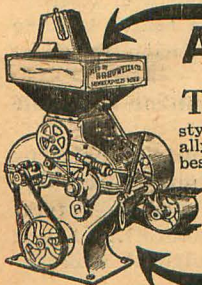
10 heifers, and 2 bulls, 15-16ths pure, 5 weeks old, nicely marked and from heavy milkers \$20.00 each, crated for shipment anywhere. Edgewood Farms, Whitewater, Wis.

## CLASSIFIED ADS.

### One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

25 Shorthorn Dairy Cows due to freshen soon 40 heifers; young registered bulls; choice shorthorn and holstein calves. Time to responsible parties. Paul Johnson Co., South St. Paul, Minn.



## A ROLLER FEED MILL

WILL GRIND A WAGON LOAD OF FEED FOR 10 CENTS.

THIS is the Famous Howell Roller Mill you have heard so much talk about. The new improved mill for the scientific grinding of grain. Old style Burr and Stone Mills are out of date. Thousands of them are being annually replaced by the Famous Howell Roller Mills. Grind twice as fast as the best burr mill made. Does not heat the feed. Grinds Graham and Rye flour as well as feed. Has big capacity. Requires little power. No burrs or stones to wear out. Guaranteed to last a life time. Made in 13 sizes suitable for any size engine. Save one-half your time, gasoline and money by using a Howell Roller Mill. Write for Catalog F-13. We will send it free, together with the Famous Howell Roller Feed Mill Puzzle.

R. R. HOWELL & CO., Manufacturers, Minneapolis, Minn.



**BREED THE BEST**

There can be but **One Best**  
Why lose profits breeding and feeding scrub hogs?  
**Two of our Famous O. I. C. HOGS**  
weighed **2806 lbs.**  
Will ship you sample pair of these famous hogs on time and give agency to first applicant. We are originators, most extensive breeders and shippers of pure bred hogs in the world. All foreign shipments **U. S. Gov't Inspected**  
We have bred O. I. C. Hogs for 53 years and have never lost a hog with cholera or any other contagious disease.

Write today for Free Book, "The Hog from Birth to Sale" also True History of the Origin of the O. I. C.

**THE L. B. SILVER CO.**  
544 Heights Temple Bldg. Cleveland, Ohio

### CLASSIFIED ADS CONTINUED 1 Cent A Word

**55 Formulas.** Tricks, Illusions and Valuable Household Hints in our interesting Magazine for two issues sent complete for 10 cents. Publishers New Ideas, Cedar Rapids, Iowa.

**SCOTCH COLLIES.**—The Companion, farm, stock and watchdog, from the most noted working strains, Highborn Collie Kennels, St. Peter, Minn.

**WANTED.**—A buyer for my year-old Polled Durham Bull. First offer of \$50 takes him. Address: R. E. STRUTZ, Bismarck, N. D.

**WANTED.** Live Foxes, Skunks, Mink and Badgers, any time. Envilla Stock Farm, Cogswell, N. D.

**FOR SALE:** The imported Guernsey Bull, LLwyfa Mon 30678, rich in the blood of the Masher and Governor of the Chene families; born Aug. 4, 1914; gentle and sure. Write D. H. Richards, Edgewater Farm, Ladysmith, Wis.

**WANTED:** Man to wear fine suit, act as agent. Big pay, easy work. Banner Tailoring Co., Dept. 501, Chicago.

**POWER FARMING.** The magazine of farming with mechanical power. Send 10 cents for three months' trial subscription. Power Farming, Box C, St. Joseph, Mich.

**THE EARNEST HOMESEAKER** is the man I want to hear from. I can save him many dollars on his purchase of a farm. All such, please write promptly to Arnold, Land Agent, Rock Island Ry., 107 Wolvin Bldg., Duluth, Minn.

Oregon & California Railroad Co. grants lands. Title to same vested in United States by Act of Congress Dated 9, 1916. Two million three hundred thousand acres to be opened for homesteads and sale. Timber and agricultural lands. Containing some of the best land left in United States. Now is the opportune time. Large sectional map showing lands and description of soil. Climate, rainfall, elevations, etc., postpaid, one dollar. **Grand Lands Locating Co., Bx 610, Portland, Oregon.**

**For Rent:** Stock and Grain Farm, one to three miles south of McKenzie, Burleigh County, North Dakota. 900 acres under cultivation. Will rent for one-fourth crop delivered. Adjoining hay and pasture land may be rented with plow land. For further particulars write W. L. Watson, McKenzie, N. D.

**WANTED:** Position on Farm by man and wife by year or proposition farming on shares. Good Stockman. Reference, if required. Earl Hecker, Killdeer, N. D.

**LEARN TO SPEAK IN PUBLIC.** We train men and women to be good public speakers. Money, position and prominence to be gained thru good platform work. Total cost is only \$5.00. We teach other things—send for outline. Prin. W. C. Moore, New Egypt, N. J.

**WANTED—MISCELLANEOUS HELP.**—From \$12 a week to \$3,000 a year shows possibilities of life insurance. You can be trained for this business. Will send you free our correspondence course of salesmanship and life insurance. This is not advertising matter but a course of instruction such as you would pay \$50 for. It is yours for asking, free. Write today. William King, Agency Supervisor, Dept 59, Missouri State Life Insurance Company, St. Louis, Mo. Fastest growing life insurance company in America. Insurance in force over \$120,000,000.

with size and style to get the best in any class of horses.

It is a pretty sure proof that if cream churns quickly it is too warm and the butter will be lacking in grain and color.

There is no article of human food that will absorb odors as readily as milk also in which they can be so readily detected.

In feeding stock an animal that is getting lots of exercise will stand more food and a wider and cheaper ration than one that is not.

The best cow for the dairy is the one that produces the greatest amount of butter fat in a year—for food consumed—when rightly fed.

Keep a supply of charcoal and wood ashes where the hogs can help themselves as they form an element in the growth and strength of the bones.

### TWENTY YEARS OF PROGRESS WITH NORTH DAKOTA'S LEADING DAIRY CATTLE BREEDING CIRCUIT

J. H. Shepperd, N. D. Exp. Station

The New Salem community which from the Breeding Circuit standpoint should always be thought of as including the Youngtown neighborhood had learned to work together in at least a limited way twenty years ago.

They established the cooperative creamery at New Salem in June, 1895 and that institution has closed its doors but two days since that date. It became necessary to lay a cement floor in their building and they had to give it two days to set. In March, 1899 a creamery was opened at Youngtown in the country some eight miles north of New Salem. The two creameries vied with each other in strong rivalry for six years, probably to the advantage of both. After six years of competition, rivalry ceased and cooperation between the two plants followed and both to this day are thrifty and successful.

Herman Krueger, one of the older men of the region, was first to start it off by declaring that he was going to invest in some purebred cattle and that he had deposited a sum of money to be used for that purpose. Mr. Krueger's decision brought others to the conclusion that they would join in the enterprise and arrangements were soon effected whereby a carload of pure bred Holstein females were bought for individuals in the community. At about that time I became particularly interested in their plant and studied the conditions rather actively. I found the New Salem and

Youngtown creameries, already mentioned, with high grade butter makers at each place who tended to stimulate and interest them in high production and good quality of milk.

In 1909, when the writer first came in business contact with them and began to talk a cooperative breeding circuit, they regularly declared that while they produced both grain and live stock products that they regarded the live stock as the better and more dependable source of income.

The New Salem breeding circuit was organized in 1909 and effected all arrangements of detail so that records were begun January 1, 1910.

It is a cooperative breeding enterprise carried out jointly by the United States Department of Agriculture, the North Dakota Experiment Station and the New Salem Holstein-Friesian Cattle Breeders Association. Representatives of each organization constitute a committee to pass upon the sires which shall be used upon particular blood lines and where necessary to adjust all matters of transfer including the price to be paid by one member to another, etc. The Experiment Station and United States Government maintain a man at New Salem who supervises the work of the Circuit. The superintendent makes such tests as are required for the permanent files. Incidentally the superintendent makes himself as useful as possible by suggesting improvements in feeding, housing and care of their herds.

Fortunately our committee has had

### 40 REGISTERED DRAFT HORSES

### 60 REGISTERED BEEF CATTLE

will be sold at Auction

AT MANDAN, N. D.

The Horses will be sold Feb. 21

The Cattle will be sold Feb. 22

Sales begin promptly at 1 o'clock each day. Under the auspices of the North Dakota Live Stock Association

All horses will be inspected by a State Veterinarian and sold with the guarantee of the association as to their health and soundness.

All cattle will be tuberculin tested and sold with health certificates showing their freedom from tuberculosis.

Sales will be held in heated building and near Northern Pacific Depot at Mandan.

Terms of sale cash or bankable Paper.

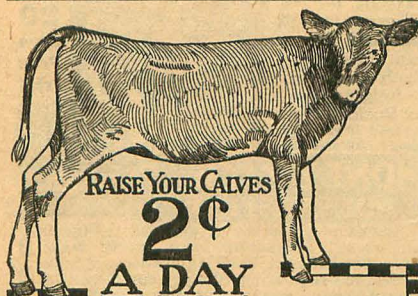
For catalog or further particulars write Dr. Edmund Mackey, Mandan, N. D. or W. H. Peters, Secretary, North Dakota Live Stock Association, Agricultural College, Fargo, North Dakota.



little to do in making adjustments, outside of blood line direction by the writer, thanks to the New Salem spirit of cooperation.

About a year ago thru the process of suggestion the owners of Hengervold Ornsby DeKol 41085 exchanged him for Sir Pietertje Ormsby Mercedes 18th No. 81140. This involved five herds and five members. Sir Ormsby Hengervold DeKol carries three-eighths of the blood of the world's champion cow Duchess Skylark Ormsby 124514, with a record of 1205.6 pounds of butterfat in a year, and queen Piobe Mercedes 154610, a half sister of the Mercedes 12th bull has since become the junior four-year-old world's champion Holstein-Friesian cow with a record of 1,111.56 pounds of butter fat in a year. To try the spirit of the Circuit to the limit the younger bull Sir Pietertje Ormsby Mercedes 12th 81140 then five years old become impotent shortly after the time of the transfer of ownership, altho there is evidence that he was not in that condition three weeks before. To pass such a crisis with so many men concerned without a break in the Circuit is certainly a credit to their spirit of mutual trust.

The Holstein-Friesian Advanced



RAISE YOUR CALVES  
**2¢**  
A DAY

Raise strong, healthy Calves at a cost of only 2¢ per day. Don't use whole milk at a cost of 20¢ to 30¢ per day and feed at a loss. **SELL YOUR WHOLE MILK!** Cow's milk varies, too, according to the animal's health, and often causes scours, whereas Prussian Calf Meal will not vary or scour.

### Prussian Calf Meal

is, also, rich in vegetable matter, protein and fat, and is a real milk substitute. Only about one-fourth as much meal is required to a feeding as most other brands. Simply mix with water or separator milk.

If your dealer can't supply you, write to us. Money cheerfully refunded if not absolutely satisfactory. **TRY A 12-LB. PAIL TO-DAY!**

**PRUSSIAN REMEDY CO.,**  
Dept. A. St. Paul, Minn.



### GET RID OF Worms and Bots

You can remove every one of them. We guarantee to kill and bring from the body, dead, in a very short time, all pin worms and bots, with the safe and sure remedy.

#### NEWVERMIFUGE

Absolutely harmless. Can be given to mares in foal before the eighth month. Horse owners write us that Newvermifuge has removed from 500 to 800 bots and worms from a single horse. An animal that is wormy can't help but be ugly and thin. If your horses are troubled with worms send us your order today. Price \$2.00 for 12 Capsules. **BALLING GUN FREE** with 4 dozen \$8.00, with 2 dozen \$5.00. Postage paid.

**Farmer's Horse Remedy Company,**  
Dept. B2, 592 7th Street, Milwaukee, Wis.

Registry Standard requires 250.5 pounds butter fat for a cow two years old and one-tenth of a pound for each additional day of age until five years old, at which age and over the production of 860 pounds of butter fat is required.

I have classified the cows on the Circuit on the basis of their performance record, dividing them into four classes.

1. The ones in the first class are those which have exceeded the standard requirements.

2. Those which have come within forty pounds of the standard.

3. Those which have come within one hundred pounds of the standard.

4. Those one hundred pounds or more below the requirement.

Here is what they show:

	Percentages	
	1914	1915
1st class equal A. R. O. stand'd	26.3	40.0
2nd class within 40 lbs. A. R. O.	37.0	26.7
3rd class within 100 lbs. A. R. O.	26.2	33.3
4th class more than 100 lbs.		
below A. R. O. stand'd	10.5	

100.0 100.0

I do not flatter myself that improvement in the breeding is responsible for all of the increased production shown. Silos have been built and silage added to their rations. Grimm alfalfa has been grown and the Circuit cows are getting the hay. Their barns have been improved and Circuit men are feeding more grain. All of these items have had an influence, but I am certain that the subtle thread of heredity has been in part responsible. I am proud of the fact that the two bulls which were sorted out and retained until five and thirteen years old respectively should have their three-eighths blood relative and half sister earn world's championship records.

Following is the record of the only herd of the thirteen that I have the 1916 records summed up for. It is the herd which I think has made the best showing during the past year, that is the reason it was summed up first.

No. of cows	Year	Butter fat	Cost of feed	Net profit
17	1910	131.9	\$27.25	\$16.90
12	1911	140.7	24.66	13.20
17	1912	189.5	26.52	35.45
16	1913	211.4	36.99	33.09
10	1914	232.44	33.71	50.98
13	1915	291.0	57.00	54.50
14	1916	427.6	57.30	90.24

A breeding problem requires time as well as numbers to give positive and permanent results and while the New Salem project shows marked progress and clear feasibility for the plan much of what should accrue to

it must come in the future. A measure has been established, the lowest class in performance eliminated and the highest markedly increased. An individual herd has been raised from state average to 427.6 pounds of butter fat per year while the number of advanced registrations has been greatly increased. The Circuit now furnishes approximately three hundred head of pure bred animals to work with and is on such basis that all desirable animals for the work of the Circuit can be retained. I feel that the preliminary work is accomplished and that the Circuit will be able to secure results much more rapidly in the future.

### FIRST NATIONAL CALF CLUB SALE

Mr. Thos. F. Chamberlain, Cashier, First National Bank, Brighton, Ill., purchased in Wisconsin last March 84 head of heifers ranging in age from six to sixteen months. These calves we shipped to Brighton and sold to school children in that vicinity at actual cost, the bank taking the child's note bearing six per cent interest. They paid an average price of \$43.00 per

**BEST FARM PROPOSITION** in Red River Valley. 95% under plow, with stock, machinery, feed, and 1917 crop put in the ground, from 160 to 960 acres according to your choice.

Los Ellen, Niagara, N. D., Bx. 47, R. 1

## Square Deal FENCE

**Ropp's New Calculator**

Costs least to put up. Outlasts all others. Stands tight and trim the year 'round. Has one-piece stay wires, wavy strand wires—heavily galvanized. Self-draining, double griplock. Hogs can't tilt it. Wires won't spread. Write for catalog.

**FREE TO LANDOWNERS** who have not already received a copy—a handy pocket size of Ropp's New Calculator—worth 50¢. Tells at a glance correct answer to almost any farm problem. Write for it, also catalog.

**KEYSTONE STEEL & WIRE CO.**  
6049 Industrial St., Peoria, Illinois

### BOTS AND WORMS IN HORSES

are dangerous and should be exterminated without delay, according to Government bulletin. Nothing will do the work more thoroly and safely than our famous Improved Heureka Worm Capsules. They are absolutely reliable and fully guaranteed and highly recommended by professional men. Price \$2.00 for 12 capsules; or with Bailling Gun, one dozen \$3.50, two dozen, \$5.00, four dozen \$8.00. Order today from The Breeders' Remedy Co., 47 Biddle St., Dept. 24, Milwaukee, Wis.



head for these calves, delivered at Brighton, with the understanding that in less than one year they were to be brought to Brighton and sold at public auction. The difference in what they paid, plus six per cent interest, and what the heifer brought at the sale, was the profit the child made on the transaction.

This sale was held Friday, December 8, and the 84 heifers were sold for cash at public auction to the highest bidder, and brought an average of \$92.30 per head, a total of \$7,749.00. The notes given by the children totaled \$3,612.00 leaving a profit of \$4,137.00. This sale was the first of its kind held in this country, and afforded convincing evidence of the practicability of the Bank Calf Club Movement in Illinois. Under the leadership of W. Scott Matthews, Illinois Dairy and Food Commissioner, this movement has resulted in the organization of nine Calf Clubs for the purpose of interesting children in the Dairy Industry. Plans are now under way for the formation of more of these clubs by bankers in different parts of the state. As the heifers had been on pasture the greater part of the time, the cost of keeping them was small.

Carl Vrooman, Asst. Secretary of Agriculture, made a special trip from Washington, D. C., in order to address the boys and girls of the Brighton Club, to encourage them in their dairy work, and congratulate them on the results accomplished.

Ruth Deatherage's heifer brought her \$145—and the pound of butter which Ruth made herself from her heifer's milk, was sold at auction and was bought by the International Harvester Company for \$5.00.

It was very interesting to watch this sale and see the interest manifested by the children who had cared for these heifers, but the part of the program that attracted most attention was to see these children gather at the bank and receive their money, seeing them deposit the same, and in hearing what they had to say about what they were going to do with this money. And in nearly every instance it was this—"I am going to buy two heifers this spring and I am not going to sell them. I am going to keep them and start a dairy herd."

We believe that practical work of this kind will go much farther in encouraging children to stay on the farm than all the literature that could be distributed and speeches that could be made. Speeches and bulletins are good, but practical help and actually earning money on the farm are the best arguments to use. In other words, help people to help themselves.



## Poultry Department



### POULTRY FACTS AND FIGURES Michael K. Boyer

The following facts and figures answer many queries which reach poultry editors at least once a year. It would be a good idea to carefully preserve them for future reference. They are not given at random, but have been carefully compiled and edited:

It takes about three months to grow a broiler.

The goose lays a score or two of eggs in a year.

No brooding-pen should contain over 50 chicks.

Broilers shrink about a half pound each when dressed.

The shell of an egg contains about 50 grains of salt of lime.

Forty dressed ducklings are packed in a barrel for shipment.

From 35 to 40 ducks and drakes are allowed in a pen.

The duck averages 10 dozen eggs in about seven months' laying.

Build the house 10 by 10 feet for 10 fowls, and the yard 10 times larger.

Ducklings are marketed at five pounds weight, which they attain in 10 weeks.

Ten dozen eggs a year is the average estimate given as the production of the hen.

About eight dozen eggs are given as an average for the annual output of the turkey.

Duck feathers sell at 40 cents per pound; goose feathers bring double the amount.

Thirteen eggs are considered a setting, tho many breeders are now giving fifteen.

Between 40 and 50 degrees is in the proper temperature to keep eggs for hatching during winter.

Eggs intended for hatching should not be kept over four weeks. They must be turned every day or two.

It will require seven pounds of skimmed milk to equal one pound of lean beef for flesh-forming qualities.

One dollar per head is the average cost of keeping a fowl a year, and the same amount is a fair estimate of the profits.

The eggs of the White Leghorn, Black Minorca and Houdan are of about the same weight as those of the Light Brahma.

In an egg of 1000 grains, 600 belong to the white, 300 to the yolk, and 100 to the shell.

For good results in egg production, the hen-house during the winter should not be allowed to become colder than 40 degrees.

In 100 parts of the white of an egg, about 80 per cent is water; 12½ per cent albumen; one per cent mineral matter; and two and a half per cent sugar, etc.

A Light Brahma hen's egg will weigh from two and a quarter to two and a half ounces, or about one pound and 12 ounces per dozen.

In mating ducks, about seven are allowed a drake in the beginning of the season, more as the weather grows warmer, until a dozen are reached.

Poultry manure contains 2.43 per cent of phosphoric acid; 2.26 per cent potash; and 3.25 per cent nitrogen, as ammonia and organic matter.

**Both** Machines \$  
Freight Paid **Only 10**

**WINNERS IN BIG HATCHING CONTESTS EVERY YEAR**

Think of it!  
These two **UNBEATABLE Wisconsin Machines**—both for only \$10—freight paid east of Rockies. Guaranteed 10 years and sold on **30 days trial**—



**30 Days Free Trial**



**130 Eggs 130 Chicks**

**MONEY BACK IF NOT SATISFIED**

Wisconsin are made of genuine California Redwood. Incubators have double walls, air space between, double glass doors, copper tanks, self-regulating. Shipped complete with thermometers, egg tester, lamps, etc., ready to run. **Biggest incubator bargain of the year.** Send for our new 1917 catalog fully describing this outfit. A postal brings it by return mail.

**180-Egg Incubator and Brooder both \$12.75**  
**WISCONSIN INCUBATOR COMPANY**  
Box 42, Racine, Wis.

**Did You Have "Good Luck" With Your Chicks?**

"Luck" with chicks starts with the incubator. If it is properly heated, properly regulated, and properly ventilated, your chicks will start off with vitality. They won't come out of the shell **half dead**. So many people trust their eggs to a cheap machine, forgetting that it is not only how many you hatch that counts, but how many **live and grow**.

**Start Your Chicks With a Queen Constitution**

The Queen has a reputation for hatching **strong, healthy chicks**. It is built of genuine Redwood—very scarce in these days of cheap substitutes. Redwood does not absorb odors from the hatching eggs. Cheaper woods, and pasteboard lining in iron and tin machines, retain the odors to weaken and kill the hatching chicks.

Queen incubators are not cheap, but they are built to hatch **big hatches of chicks that live**. Book sent free.

**Queen Incubator Co., 1193 N. 14th St., Lincoln, Nebr.**

**Capital Incubators**

**Save You Money**

We don't advertise big, but we build Incubators, Brooders, etc., that are used by leading poultrymen, by State Experiment Stations, and sell at lower prices. It will pay you to get our free catalogue.

**Capital Incubator Co., Dept. T, St. Paul, Minn.**



# Are You Living On the Chickens?

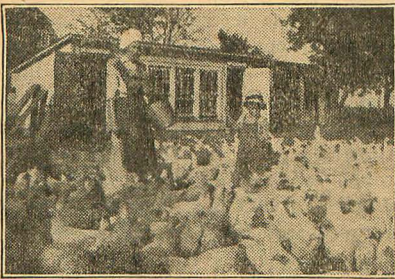
By H. H. Johnson



H. H. Johnson  
"The Incubator Man"

**A**n odd confession come to light the other day. One of our nearby customers came into the office and among other things said, "Do you know it just dawned on me that during the five years we lived in Texas the wife kept me and the children? She raised chickens and always seemed to have money. The children were never without good clothes, and grocery and meat bills were always paid. I can not recall of having taken care of these things, and I really believe that her poultry kept us while I kept myself busy farming."

I wouldn't doubt this. I have received many letters from farmers who admitted that their wives made more dollars from poultry than they made dimes farming. This is no reflection on grain and stock raising but it shows what poultry can do when put to the test.



You Can Live Well on Poultry Profits

Of late years, more farmers are taking to poultry raising. Instead of leaving it all to the women folks and cussing every time the hens roost on the buggy or farm machinery, they are providing for poultry houses and giving the chickens a place to stay. They find that it pays. Maybe the chickens require a little grain. But so do the hogs. And what farmer couldn't raise a few hundred chickens for the time and expense put in on raising half a dozen hogs?

The old order of things is changing. The poultry farmer has found it profitable to look at his chickens in the same light that the dairy farmer looks at his cows. That is so far as the money-making possibilities are concerned. But instead of having to buy feed for his poultry, the chickens can be fed the scraps from the table, and the waste from the feed bins and feeding that cattle and hogs tramp into the mud.

No one is too poor to raise poultry profitably. And it takes less expense, less work, and less management to make farm poultry pay than any other kind of poultry.

There is not much capital needed for starting. Some unused shed can do for the chicken house, hence no expense in that direction. About the only equipment needed is a good incubator, a brooder and the eggs. If the incubator is built right, no special room or cave is needed for it. It supplies its own protection from the weather. The same can be said for the brooder, although it is always well to set the brooder in a big box, such as a piano box, so that the little chicks can run around with comfort.



Table Scraps Make Good Feed

A flock of only 50 laying pullets this fall should be worth \$50.00 at \$1.00 each, or if kept for layers should bring twice the amount in income. The spring fries are welcome to the family table or bring big market prices.

It has been our experience that an investment of a few dollars to start early hatching means 200 to 400% profit.

At this writing we have a little over 700,000 customers. We have dealt with more poultry raisers and sold three or four times as many incubators as any other concern that I know of. I believe this success is due, first to our practical common sense incubators and brooders; second to our knowledge of poultry raising as 95 per cent of the people have to raise it; third to our plan of facing the proposition fairly, striking the average without playing head lines of sensational and unusual successes, of which we have our share; and fourth to our settling down to business here in Clay Center, Neb., among the people who bought our first machines.

Our new annual catalog deals with profitable poultry raising and we are always glad



**Are You Selling Eggs or Buying Them?**  
To send a copy free. Also we like to write letters. If you have any poultry troubles, tell us and maybe we can offer a suggestion or two that would fit. Write for our book anyway and let's get acquainted.

**\$960**

Tell us your poultry troubles — We will offer suggestions.

Brings you this top-notch **OLD TRUSTY** with redwood case—freight paid to any point east of the Rockies—a trifle more to points farther west. (For express shipment, write for express prepaid price.)



**120 Egg Size**  
Famous Redwood Covered Old Trusty Improved. Note the handy thermometer holder. Has same redwood case, regulator and pure copper tank as metal covered machine.



M. M. Johnson  
Inventor of "Old Trusty"

## Here Is Your Answer to the Price Question

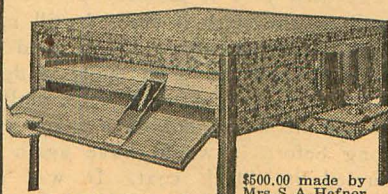
**THIS** beats anything we have ever offered before. Write us at once—today—for catalog telling all about it. Here's your chance to save money. In spite of rising costs and

increasing prices everywhere, we can still let you get under the wire for a low priced, top-notch quality machine. It's genuine Old Trusty—the same machine we sold in 1908, but improved. Thousands of these old machines are still in use and outside of our metal covered Old Trusty, they never had an equal for quality. Write today.

## Old Trusty Incubators and Brooders

I urge you to get in touch with us at once and speak for one of these money-saving redwood models. We've always had a call for them, the demand is now stronger than ever. We may have stock enough to last through the season, but to be safe, write today and ask us to hold one for you, or ship at once as you wish. Also note the new improvements on our metal covered Old Trusty. Big oil drawer holds 5 to 6 quarts. Saves work and time of filling. Handy thermometer holder on the door saves time and stooping. This feature is also in our redwood covered machine. Write for Our Book of Poultry "Know How." H. H. Johnson, "The Incubator Man."

The M. M. Johnson Co. Clay Center, Neb.



Quick shipment. We Pay Freight. Write for express prepaid price. Shipments made from factory at Clay Center, Neb., or warehouses at St. Joseph, Mo., or Seattle, Wash. Safe deliveries guaranteed.

\$500.00 made by Mrs. S. A. Hefner of Chickasha, Okla., last year, and she expects to double the amount this year with Old Trusty. Old Trusty has 700,000 users.



This Book FREE

The M. M. Johnson Co., Clay Center, Neb.

☐ If only our book is wanted, put an X in this square and sign your name and address. Answer following questions if you care to.

How many chickens do you keep? \_\_\_\_\_ Do your

hens lay in fall and winter? \_\_\_\_\_ Have you used

an incubator and have you been successful? \_\_\_\_\_

Do you live in town or on the farm? \_\_\_\_\_

Have you had any poultry troubles? \_\_\_\_\_  
(Write a letter if not room enough here)

Name \_\_\_\_\_

Address \_\_\_\_\_



In 100 parts of the yolk, 52 per cent is water, 45 per cent is oil and fat, and one per cent each of albumoids, coloring and mineral matter.

Seventy-five per cent is about the average hatch by a hen, and 50 per cent by an incubator. Poor machines and careless and inexperienced operators are the cause of the difference.

If properly kept and judiciously applied to land, poultry manure is worth one-half the cost of the food the fowl gets, and yet little account is taken of the droppings when an estimate is made of the profits.

Compared with well-rotted barn manure, there are 48.60 pounds of phosphoric acid in hen manure, to six in barnyard manure; 41 pounds of potash, to ten in barnyard manure; and 67 pounds of nitrogen to 11 in barnyard manure. The analysis is based on a ton each of hen and barn-yard manure.

A duckling at a week old should weigh four ounces; two weeks, nine ounces; three weeks, one pound; four weeks, one pound and nine ounces; five weeks, two pounds and two ounces; six weeks, two pounds and 11 ounces; seven weeks, three pounds and five ounces; eight weeks, four pounds; nine weeks, four pounds and eight ounces.

How much will a chick gain? This by Jacobs: The eggs weigh two ounces; the newly-hatched chick weighs one and a quarter ounces; at one week old, two ounces, two weeks old, four ounces; three weeks old, six and a quarter ounces; four weeks old, ten ounces; five weeks old, 14 ounces; six weeks old, 18½ ounces; seven weeks old, 25½ ounces; eight weeks old, 28 ounces; nine weeks old, 32 ounces; 10 weeks old, 36 ounces; 11 weeks old, 41 ounces.

"Everything to market" seems to be the maxim with the majority of poultry and egg raisers. The writer knows of a number of large shippers of poultry meat and eggs who very seldom have any of the product on their own tables. He once visited a large farm on which were over 2000 fowls—old and young—and each and every meal witnessed spare ribs as the feature! By way of apology some of those who are so very careful not to market any of their product at home said, "we cannot afford it." A poor excuse is probably better than none, but how a poultry man can afford to deprive himself and family of fresh eggs and choice meats, we cannot understand. Sit down to the first table, poultrymen, and after you have supplied yourself with the best send the balance to market.

It is a good idea to set hens during the month of September. They will pay to grow them during the winter for roasting fowls. Quite a number of the New Jersey farmers set all the hens they can from September on, and what they cannot market as broilers in January will come in about a month later. One of the secrets of success on a poultry farm is to always have something to sell—broilers, roasters, ducklings, or eggs. By always having something to market, there is every week of the year an income. It pays to notice these little things.

Probably no species of birds should be more carefully fed when raised for market than the duck. The Long Islanders are very careful about the quantity of fish fed to their stock, some of them excluding it from the diet altogether. On the other hand, such foods are given during the fattening season as will give a good flavor to the meat. For a week or so before marketing, those intended to be butchered, should be confined to separate quarters and fed with the regular ground grain, a good supply of boiled potatoes, mashed. Water must be plentifully supplied for them to drink.

A reader who has a flock of black Spanish fowls, is somewhat puzzled over the strange molting of one of his hens. It is about entering its third molt, and he would like to know something about what he might expect. When hatched the hen was a coal black, but after its first molt it came out about quarter white, and looked very odd. "Will it return to the black, or is it likely to show more white?" The question can, probably, be best answered by giving an instance of a Hammon-ton, N. J., hen. Frank Y. Hopping, of that town, once owned a white-faced black Spanish hen that performed the same kind of freaks. It hatched a black color and turned partly white after the first molt. The next year it became two-thirds white, and the fourth year it came out a pure white, not a feather in its body showing a tinge of black. The fifth year it moulted part black, and on the sixth it showed still more black, but unfortunately, it died before it had its next molt. Judging from the changes made each molting season, it would not have taken very long before it would have again assumed its black coat. It was certainly a wonderful freak. Yet all these changes are events that have happened before. We have before us a work written probably sixty years ago, in which the writer says: "Span-

ish fowls have occasionally changed their plumage, and become perfectly white. A person writing to a sporting paper, says that he has seen a perfectly white Spanish hen which had once been entirely black, and inquires if such a thing is not very uncommon, and if any of his readers can account for such change, it had not the plea of cold, like the ptarmigan and mountain hare. We have heard of several instances of a black Spanish fowl becoming a white bird, and recollect one exhibited at a poultry show as a white Spanish fowl, which we were told, had undergone this curious change."

### Keeping Eggs for Hatching

According to E. J. Peterson, of the N. D. Experiment Station, eggs for hatching keep best at a temperature of 50 degrees F. The eggs should be turned once a day. Eggs that have been shipped should be carefully unpacked and left entirely quiet for at least 24 hours before being placed in the incubator. Under average conditions it is not desirable to keep eggs to be used for hatching more than 10 days. Satisfactory hatches may be secured from eggs kept three weeks if they have been kept at or near 50 degrees and turned regularly. Experiments show that the longer eggs are kept the lower will be the percentage of chicks.



**62 BREEDS,** Pure-bred Chickens, Ducks, Geese, Turkeys. Hardy northern raised, vigorous, beautiful, Fowls, eggs, incubators, at low prices. America's Pioneer Poultry Farm; 23 years exp. Large fine Annual Poultry Book and Catalog Free. **F. A. NEUBERT, Box 689, Mankato, Minn.**

**FOR SALE**—Excellent thorobred Barred Rock cockerels. Strong, hardy stock from heavy, egg-laying strain. Eggs in season. Book orders early. **Laurel Hill Farm, Westby, Mont.**

**FOR SALE.** Silver-Laced Wyandottes. Cockerels, \$1.50 a piece. **Mrs. Thos. Brady, Lansford, N. Dak.**

**FOR SALE.** Well Bred Up R. C. Reds. First prize winners; cockerels, \$1.25. **Mrs. John Henderson, Bx228, Beulah, N. D.**

**White and Columbia Wyandottes, Light Brahmas, and S. C. White Leghorns** Over 30 years a breeder. Stock and eggs for sale. **MICHAEL K. BOYER, Box 27, Hammon-ton, New Jersey.**

## Quality White Rocks

Hatching Eggs and Stock in season. We have the Best. **O. A. Barton, Valley City, N. D.**

## BARRED P. ROCKS

Big, Strong, Prize-Winning Stock  
Hawkins, Bradley Strain  
Eggs and stock in season at very reasonable prices.  
**PERCY BEALS**  
**BOX 736 : : FARGO, N. DAK.**



## School and Home



Miss Ura Leader,  
Ruraldale, N. D.  
Dear Miss Leader:

It seems to me that you are not as prompt as you should be with your correspondence. I am glad, however, to write you concerning the topics which you have to teach next month. Do not think this is all the information available, for there are stacks of it.

Just at the present time there is great interest being shown in diversified farming. This means the introduction of stock. This type of farming is coming to stay. The one crop system is not successful. No one can grow the same crop on the same land indefinitely and be successful.

In this change cattle will no doubt play an important part. Their introduction possesses many advantages. There is a ready market for cattle every day in the year. One can make a start without any great outlay. And they are really profitable when handled at all well.

I think it will be well to give some consideration to types and breeds. There are many breeds but only a few types. The different types are suited for different purposes. The classification is based on adaptation.

### Beef Breeds:

Shorthorn  
Hereford  
Angus  
Galloway  
Polled Durham

### Dairy Breeds:

Jersey  
Holstein  
Ayrshire  
Guernsey  
Dutch belted

### Other Breeds:

Red Polled  
Devon  
Brown Swiss  
Milking Shorthorn

You should first give consideration to breed types and characters. Such information may be found in the following publications:

Farmers bulletin 612; Breeds of beef cattle. U. S. D. A. bulletin 434; Judging dairy cattle. Farmers' bulletin 106; Breeds of dairy cattle. Different publications of the North Dakota Experiment Station.

These publications are free. They are well worth having in your school library. If you do not know how to get them write me. I will be glad to have them forwarded to you.

After giving some time to breeds, you should study conformation as related to economy of production. Can you tell why a beef animal is better for beef production than is a dairy animal. What is the difference between the two types.

Get your County Agent to help. He will gladly give assistance. No doubt he will go on a visit with you to some of the best herds in the community. If necessary he can help with the class work. Have you ever asked your County Agent for help?

Home and School Grounds seldom receive the care and attention which they deserve. There is no valid reason why such places should not be made attractive. Yet they are seldom as attractive as the yards of a railroad.

If the work was very difficult, or if there were few plants which might be used there might be some excuse offered. But it takes very little time and not much money to make the yards around the school and around the home attractive. I came very near saying that they might be made beautiful.

Grass is the foundation for yards. Grass is far better than weeds. Bare ground is very unsightly. Trees and shrubs should cut off unsightly objects. They should afford some protection from the wind and sun. If the plantings are properly placed they will add much to the beauty of the place.

There are many hardy trees, shrubs and perennials. The North Dakota Experiment Station has published a bulletin giving the names of these plants. It also shows methods of planting, the laying out of the grounds and the care of the grounds.

Do you have grounds for school gardens. If you do you are fortunate. Very little space is required but will do much to make your work useful.

North Dakota needs better school grounds and better home surroundings. The buildings are usually good. Will you as a teacher do your part to encourage the betterment of these places?

Sincerely yours,  
O. O. CHURCHILL.

## NAME THE FARM

By Extension Department, N. D. A. C.

Naming a farm helps give it individuality. It has a tendency to draw attention to it and to increase the owner's pride in it.

A law has been passed in North Dakota providing for having the farm name registered.

Below are a number of names that may be suggestive:

Airy Knoll, Airy Hill, Airy Mount, Arrowdale, Breezy Point, Bannerland, Branching Brook, Country Maze, Clover Crest, Cloverdale, Cedarcroft, Cedarhurst, Deepdale, Daisy Meadow, Deer Lodge, Dairy Downs, Eagle View, Excelsior, Forest Hill, Fountain Home, Fair Oakes, Glendale, Grace-land, Grand View, Hope Station, Haycroft, Jacqueminot Lodge, Jerseyland, Hazelnook, Kenilworth, The Knolls, Lyndale, Lakeside, Maple Grove, Morning Star, Morning Glory, Northwood, North Star, Oakland, Oaklawn, Overview, Plainview, Pinehurst, Rockwood, Robin's Lane, Shadyside, Stilwater, Sunnyside, Sunny Slope, Willowdale, Willow Copse, The Willows, Brookfield, Brookside, Cedar Lawn, Meadow Brook, Cedar Ridge, Walnut, New Era, Oak Grove, Keystone, River View, Blue Grass, Brushville, Shorthorn, Pleasant View, Uranieborg, Spring Valley, Plain View, Maple Lane, Fairview, Jersey Fruit Farm, Maple Lawn, Golden Rule, The Poplars, Walnut Lane, Clover Leaf, Maplehurst, Center Field, Central Valley, The Pines, Maple Crest, Pleasant Lawn, Highland, Nutwood, Homeville, The Green Hills, Valley Vale, Cedar Hill, Clearview, Water Edge, Walnut Lake, Park Lawn.

## THE VEGETABLE GARDEN

The vegetable garden can be made to contribute a good deal to the living of a family. First, the fresh vegetables and then some can be canned for winter use.

In planning the garden, the first thing to do is to select a piece of land that is well drained, rich, and not heavily infested with weed seed. In case manure is used, it should be well rotted.

The next thing is to have the rows far enough apart so that the horse cultivator can be used. This cuts down the work of caring for garden a great deal.

Some vegetables as tomatoes, early cabbage and cauliflower should be started in a hot bed late in March. Some plant in boxes in the house with good success. As soon as the ground



can be worked, plant onions, peas, radishes, lettuce, carrots, beets, and spinach. By May 25th, plant beans and sweet corn. Cucumbers and squash can be planted in the hot bed in April and transplanted about June 1. Set out the tomatoes at this time, too. The cucumbers and squash do not stand transplanting unless they are planted in flower pots or on sods so that their roots are not disturbed in transplanting. There are a good many other vegetables that can be planted. A good way to find out what is wanted in the garden is to look over a seed catalog and if it is from near home, it will prove a good guide for planting the garden.

Circular No. 5, North Dakota Experiment Station is entitled the Farmer's Vegetable Garden. It gives much valuable information on gardening.

### SOME OF THE SIMPLEST PRINCIPLES OF AGRICULTURE

By Chore Boy

#### Cattle

Cattle have been and are of great value to man in furnishing food and for power. Cattle can live on grass and roughage that man can not make use of as food. These cattle can convert into beef and milk. The latter can be made into butter and cheese. Beef, milk, butter and cheese are articles of daily food. In America a meal is not complete without some of these products. Try to eat a meal without any food that comes from cattle and see if it is complete or better yet try it for a whole day.

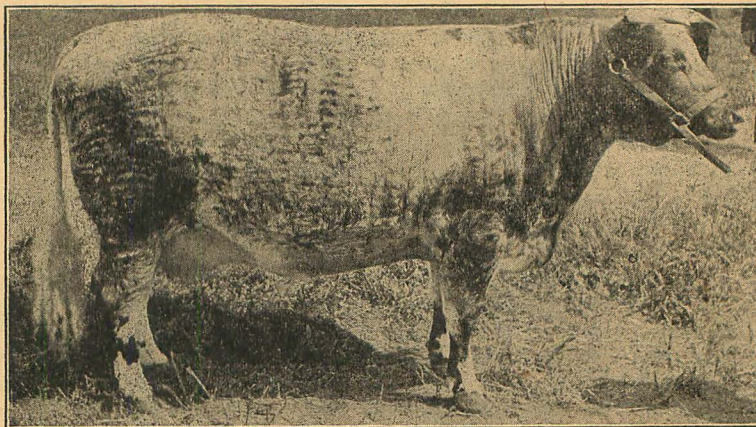
The fact that cattle can live on grasses and roughage makes them valuable on the farm. This makes possible a rotation of crops as it furnishes a means of turning grass hay, corn fodder and straw into a marketable product. And the marketable product contains but a small amount of plant food, most of it being left in the manure which takes it back to the land when the manure is spread. Cattle have a good deal to do with making farming profitable and permanent.

Cattle have been used by man for a long time. The Bible mentions that Abraham had much cattle. In Egypt cattle were sacred and they are held

in high esteem in most eastern countries.

Cattle have been developed into many breeds adapted to many purposes. These breeds have been developed in England, Scotland, the Channel Island and Holland. The English and Scotch have been the great live stock breeders, having developed nearly all the breeds of cattle, horses, sheep and hogs that are commonly kept on the farms and ranches in the civilized world today.

Cattle are divided into two main classes, beef and dairy. In beef cattle development has been made in these parts which produce the most juicy and tender meat. In the dairy breeds the development has been based on the greatest milk production. There is considerable difference between the beef and the dairy type.



A Shorthorn Cow Illustrating the Beef Breed.

For some conditions cattle are wanted that are fair milkers and that also produce fairly good beef. These are the so-called dual purpose cattle.

#### Home and School Grounds

Trees, shrubs, flowers and grasses are needed to make either nice home or school grounds. The trees and shrubs can be so planted as to give a sense of protection and security. Flowers are needed to add brightness and the grass to form a lawn.

On the prairie the first thing to be planted is a wind break of willows which should be at least 10 or 12 rods from the building. Two rows of willows is better than one row. Place the rows 12 to 16 feet apart and the willows 2 feet apart in the row. Have the rows on the north and west sides

and it is well to have some planting on the south and east. Inside of the willows a row or two of evergreens as bull pine or Black Hills spruce or better yet both make a very good reinforcement to the willows and they add beauty, too. Trees should not be planted close to the house, this is not objectionable when they are small, but when they become large they will throw a shadow on the house and in case of storms there is danger of the tree being blown onto the house. For the farm home lay out the lawn and don't make it too large, plant the trees and shrubs in clumps along the edges of the lawn. The trees in the center of a clump and shrubs on the outside, oftentimes flowers can be planted outside of the shrubs. A few flowers can be planted along the house and a few shrubs can be planted near

the house to good effect, thus covering up the base.

In planting about the farm home it must be remembered that it takes time to care for a lawn and that it may be necessary to mow the lawn with the regular mower. The more open and free the lawn is from trees, shrubs and flowers except near the house and along the borders the easier it will be to do the mowing.

The open lawn with plantings along the side usually gives the best effect too. For information on trees, shrubs and flowers see Circular No. 10, North Dakota Experiment Station.

To keep the lawn in good shape it should have a coat of manure applied every three or four years. Put it on in the fall and rake it off in the spring. Well-rotted manure or fresh horse manure is good for this purpose.

Blue grass and Red Top are good lawn grasses. If these do not do well brome grass surely will. It should be kept from growing among the trees, however. The elm, bull pine and Black Hills spruce make fine trees for the lawn. There are so many shrubs

### ENCOURAGE AND MAKE USE OF THE SPIRIT OF PLAY

Playground Games, 10 cts. Rules for playing the more common games of the school ground. Game of Times, 15 cents. A help in teaching and learning the tables and simple factoring. Davies Number Cards, 25 cents. All possible combinations. For all grades. In boxes. Westland Phonic Cards, 25 cents. Busy work for primary grades. An aid to sight reading. Fundamental Operations of Arithmetic, 15 cents. Invaluable for rapid work in numbers. Uncle Will's Magazine, The Rotary, 50 cents. Unique. Has personal element. 20th year. North Dakota Speller, 40th M. For 5th-6th, and 7th-8th Grades, 15 cts each. Trial, both 25 cts. Westland Educator, Box F. - - - Lisbon, North Dakota

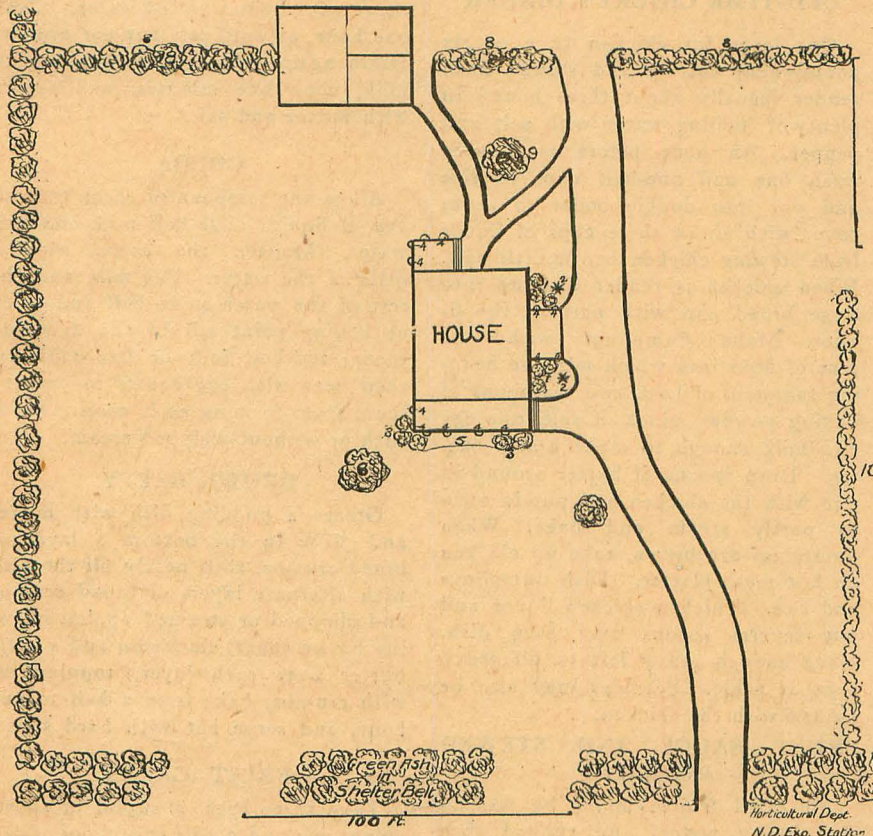


that can be used that the reader is referred to Circular 10 mentioned above. The number of flowers are likewise too many to mention here.

It is suggested that the old-fash-

the school grounds is a big problem and how to care for them in the busy season is another big problem. The above may offer some suggestions that will help solve both.

grass and weeds; each year cut out oldest canes. Ten to twelve canes is enough for each bush. Remove two or three of the oldest canes each year. Some protection as a windbreak will be a great aid to the currant.



A simple arrangement for planting on and around the lawn for a farm home. The shelter belt which protects all the buildings is not shown.

ioned flowers as the phlox, peonies, larkspur, hollyhock, lily of the valley, marigold, sweet pea, nasturtium, pansy, petunia and peepers be considered first.

The school grounds will need the windbreak and the evergreens can also be planted and the lawn should be large so as to allow room for playing games. In planting the trees on the school ground select quite a variety so that the pupils may have a chance to learn how the different trees grow, and how they do under the climatic conditions of the locality. A good many different kinds of shrubs and flowers should also be planted for the same reason.

The home or school grounds that have trees, shrubs and flowers planted along the border of an otherwise open lawn has a homelike appearance, and it will take a minimum of labor to keep them in good shape. Some farmers fence in the lawn and let the sheep graze it down. This has some disadvantages in that the flowers have to be fenced in.

How to plan the home grounds and

## CURRENTS

Currants grow to great perfection in North Dakota when good varieties are planted and given good care. The Perfection, Fay's Prolific, Red Cross and White Grape are good varieties for North Dakota. Plant these at least four feet apart in the row and keep them well cultivated and free from

## STRAWBERRIES FOR NORTH DAKOTA

The hardier varieties of strawberries do well in North Dakota, producing a fruit of fine quality. The kinds that are hardy here are Senator Dunlap, Glen Mary, Bederwood and Lovett. Varieties of everbearing strawberries have been developed. The Superb and the Progressive have done well at the North Dakota Experiment Station. Pinch back the blossoms on the everbearing strawberries till July, then allow them to set fruit. They will keep on bearing till stopped by fall frosts.

The strawberry will do well on most soils. They should be kept free from weeds, either by cultivation or they can be mulched between the rows. After the ground freezes, mulch over the rows too.

Set the plants two feet apart in rows four feet apart and at the same depth that they grew in the first place. The strawberries will soon spread so as to cover the whole space. They should be cut back, some allow the berries to form a matted row from one to two feet apart. It should be remembered that if too many plants are allowed to grow, they will spend their energies fighting each other instead of producing berries.

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## NORTH DAKOTA SCHOOL LAW

For the first time since 1911 has the State published a volume of the School Laws, and not until 1919 will another edition be printed by the State.

### WOULD YOU KNOW

For what reasons a pupil may be suspended or expelled?  
Whether one is allowed to read the Bible in school?  
What branches must be taught every day?  
For what purposes the school house may be used?  
Who may vote on school matters and what are the voters' qualifications?  
How schools may be consolidated?  
What recourse one has if he is not satisfied with the ratings of the examining board?  
Whether free text-books may be adopted without a vote?  
What to do when a pupil or parent disturbs the school?  
What provision is now made for transportation of pupils?  
How pupils may be compelled to attend school?  
Whether children may be employed in stores and factories?  
How a certificate may be revoked?  
What the law is regarding drinking cups, fire escapes, hitching posts, school libraries, pension fund, accredited diplomas, etc.?

THEN ORDER A COPY OF THE LATEST SCHOOL LAWS

Price, post paid, 30 cents.

**W. G. Crocker,**

**Lisbon, North Dakota**



## Seasonable Receipts

Mrs. Sadie Baird, Editor

### BAKED FISH

Clean, rinse and wipe dry a white-fish; rub inside and out with salt and pepper; fill with a dressing made like that for poultry, but drier; sew it up and put it in a hot pan with some beef drippings and a lump of butter; dredge the fish with flour and lay over it bits of butter; bake one and one-half hours, basting occasionally.

### EGGLESS FRUIT CAKE

Two cups sour milk, two level teaspoons soda, one-half cup of butter and lard, two cups of sugar, two teaspoons cinnamon, one of cloves, one teaspoon salt, two cups chopped raisins, four cups flour; flavor to suit; bake from thirty-five to forty minutes in slow oven.

### OLD-TIME CHICKEN DINNER

One large fat chicken (five or six pound hen) cut up and stewed until tender (usually about three hours) in plenty of boiling water with salt and pepper. An hour before meal time wash one and one-half cups of rice and put into double boiler to cook; cover with about three cups of liquor from stewing chicken and a little salt. When chicken is tender dish up into large bread pan with part of the liquor. Make dumplings with one pint of flour into which mix one heaping teaspoon of lard, two teaspoons of baking powder, pinch of salt, one egg and milk enough to make a stiff batter. Drop spoons of batter around in pan with the chicken and put in oven to partly steam and bake. When dumplings are brown, take up chicken on hot meat platter. Dish dumplings and rice. Thicken chicken liquor and put several spoons over each dish. Have enough gravy left to fill gravy boat at table. Potatoes may also be cooked with the chicken.

### PRUNE SAUCE AND STEWED APRICOTS

All dried fruits should be washed thru many waters and rubbed thru the hands until the last water is perfectly clear, then soaked over night in water sufficient to cover, allowing for swelling. In the morning bring to the boil in the water in which they soaked, adding a little thin lemon rind, then finish cooking in the double boiler until swelled and tender. Add sugar last of all, sufficient to suit the taste. Cook two or three days before needed so the juice can soak thru and thicken.

### SWEET MILK DOUGHNUTS

Beat two eggs light and add four tablespoons melted lard and one cup white sugar. Cream this and add one-fourth teaspoon nutmeg and one cup milk. Sift one quart flour with one-half teaspoon salt, three teaspoons baking powder and mix into a soft dough. Roll and cut in rings and fry in hot lard to a bright brown. Dust them with powdered sugar.

### OLD-FASHIONED STEAMED CORN BREAD

Sift together three cups of fine corn meal, one cup of wheat flour and a teaspoon of salt. Beat to a smooth batter, with two cups of sweet milk, one cup of molasses and one cup sour milk, in which a teaspoon of soda has been dissolved. Steam three hours, then bake a few moments.

### BOILED ONIONS

Put onions in cold water and remove skins, using a vegetable knife, while under water. Put in saucepan, cover with boiling salted water, and boil five minutes; drain, and again cover with boiling salted water. Cook one hour, or until soft but not broken. Drain again, add a small quantity of milk, cook five minutes, and season with butter and salt.

### COCOA

Allow one teaspoon of cocoa to each cup of liquid. Use half milk and half water. Moisten the cocoa with a little of the water. Put milk and the rest of the water on to boil and when at boiling point stir in the dissolved cocoa; let boil four or five minutes; then beat with egg beater to prevent scum from forming as it cools. Serve with or without whipped cream.

### BROWN BETTY

Grease a pudding dish with butter and place in the bottom a layer of bread crumbs, then nearly fill the dish with alternate layers of bread crumbs and chopped or steamed apples, strewing brown sugar, cinnamon and a little butter over each layer, topping off with crumbs; bake from a half to one hour, and serve hot with hard sauce.

### FRUIT CAKES

Take three eggs, a cupful of shortening, one and a half cupfuls of sugar, two cupfuls of flour, a teaspoonful each of soda and cinnamon, a cupful of nuts, a pound of dates a teaspoonful of salt and lemon and vanilla extract to taste. Dissolve the soda in a half cupful of boiling water. Bake in gem pans.

### CRANBERRY JELLY

One quart cranberries, two cups sugar, one cup water; boil together ten minutes; put thru sieve and mold.

## HONEY

Pure Extracted honey—the most healthful and wholesome of all sweets. Our honey is put up in a neat clean manner, and is strictly first class in every way. Price: 2-60 lb. cans in case, \$12.60; 1-60 lb. can \$6.60; 6-10 lb. pails in case, \$7.20; 6-5 lb. pails in case \$3.75; single 10 lb. pails \$1.25; single 5 lb. pails \$.65.

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Eau Claire, R. 1 : Wisconsin

WE GUARANTEE EVERY POUND OF  
**Clover Honey**

We send out to be pure honey and of the finest quality. Price, \$3.45 per 30-lb. can, or for 2 or more cans \$3.30 each. Sixty-lb. cans \$6.30 each. Sample 10 cts. Price List, Free.  
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### READ WHAT AUTHORITIES SAY

The following are the tests demanded by the best authorities in the United States today for Automobile Oil, regardless of highly advertised products with fancy names and prices. Oils that come up to these requirements are Safe Purchases.

#### Tests Demanded by the Mechanical Branch Association of Licensed Automobile Manufacturers:

Viscosity at 100 Fahr.—Saybolt—	Not over 300
Viscosity at 210 Fahr.—Saybolt—	40 to 55
Viscosity at 210 Fahr.—Tagliabue—	60 to 75
Flash Point	Not less than 400 Fahr.
Fire Test	Not less than 450 Fahr.
Carbon residue on evaporation	Not over 1%
Gravity	30 to 32

#### Tests Required by W. S. Purdy & Co. of New York, Recognized Authority by the Oil Fraternity thruout the Country:

Light Auto Oil, Pennsylvania Product—	
Gravity	30 5-10 to 32 5-10 Baume
Flash Point	385 to 400 F
Fire Test	440 to 460 F
Colt Test	23 to 30 F
Viscosity at 70 F—Saybolt—	165 to 185
Less than 1% Carbon by evaporation	
Color Pale Amber	

We manufacture Inland Brand House Paints: a Paint of Quality which complies with North Dakota Pure Paint Law. Our Price (\$1.71) per Gallon. Ship April 1st, You Pay us next September. Send for Color Cards.

OUR 600 CYLINDER OIL at.....43c  
HEAVY MACHINE OIL.....26c  
GAS ENGINE TRACTOR OIL.....43c  
Ship April 1st. You Pay Us Sept. 1, 1917.  
Send Your Order in Now.

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Direct to automobile owner, we have such confidence in our MOTOR-EZE-AUTO OIL, if you will order one barrel of MOTOR-EZE-AUTO OIL and 20 pounds MOTOR-EZE-AUTO GEAR LUBRICATING GREASE. We will give you FREE one large size EXTRA HEAVY ALL-WOOL BECKMAN AUTO ROBE, this robe cannot be bought less than \$10.00. We contracted a large amount of these robes from manufacturers at very low prices. The cloth in these auto robes is one-quarter inch thick. We have these robes in four colors—(Blue-White-Plaid)—(White-Brown-Plaid)—(Red-White-Green-Plaid)—(Yellow-Brown-Green-Plaid). These auto robes have a very heavy fringe on both ends of robe and they all have very rich colors. This is not a cheap robe and makes a very beautiful robe for any automobile. STATE WHAT COLOR YOU WANT.

Our MOTOR-EZE-AUTO OIL is a heavy oil, and not a light body oil like other brands. MOTOR-EZE-AUTO OIL is put up in neat packages. We will ship this oil April 1st—You need not pay for it until September 1st.

Put our oil to any test you want; if oil is not as we say, return all at our expense. No charge will be made for what you have used in making the test. All we ask is for you to try our oil.

We have a branch station in the city of Minot. Our refineries are in Ohio. We have been in the oil business twenty-three years. Our standing can be learned from any bank or rating agency. You take no risks from buying from us. OUR PRICE THE LOWEST FOR THE BEST GRADE OF OIL.

The price of our MOTOR-EZE-AUTO OIL is 45c per gallon for a barrel holding about 50 gallons. 20 pounds of our EXTRA QUALITY MOTOR-EZE-AUTO LUBRICANT GREASE at 15c per pound. REMEMBER—you don't have to send any money—you have until September 1st to pay for goods, if they are satisfactory to you.

All the crude oils are daily advancing. In order to give you this price of 45c per gallon, we would like to ask you to fill out adjoining coupon and send in your order now for your supply of oil.

Fill out the coupon and mail to INLAND OIL WORKS CO., MINOT, N. D.

### COUPON

INLAND OIL WORKS CO.,  
MINOT, N. DAK.

GENTLEMEN:  
Per your offer, you can send me one barrel of your MOTOR-EZE-AUTO OIL at 45c per gallon and 20 pounds MOTOR-EZE-LUBRICANT GREASE at 15c per pound, with the understanding that I can try the oil and if not satisfactory, can return same and no charge for what's used. I am to have until Sept. 1, 1917 to pay for oil.

I am to receive one (1) all-wool large size Beckman Auto Robe FREE.

Color wanted.....

Name.....

City or Town.....

State.....

My make of automobile is.....  
I do my banking business at .....

We will ship auto Robe at once by express if you send us your check for \$5.00. We apply this to your account; balance to be paid September 1st, 1917.

WE WILL DO THE REST



# I Will Sell You A Better Engine All Cash-Part Cash-or No Cash Down

Let Me Tell You How I Reduced the Cost  
of Manufacturing **WITTE** HIGH-  
GRADE **ENGINES**—  
Saving You Half—and Making Better Engines.



ED. H. WITTE

**BUY  
ON YOUR  
OWN  
TERMS**

For 25 years I sold through dealers. Now I deal direct with the user and I protect my customers as no one else can. Most people prefer to buy for cash, but any worthy, creditable man, anywhere in the United States, may select the WITTE engine he wants—Stationary, Saw-rig or Portable—buy it on practically his own terms and have the engine shipped at once so that it will begin to earn a part of its first cost. Take your choice of terms—

## No Money Down

Easy Payments, Bank Deposit, or Cash.

Take your choice of 2, 3, 4, 6, 8, 12, 16 or 22 H-P. Engines, Gasoline or Kerosene. I could not make you this offer if I did not own and operate the largest exclusive engine factory in the world selling direct to the user, and you can depend upon it that no matter how high the price of material goes, I can still keep the price of WITTE engines and engine parts down to the lowest notch with my improved factory equipment, superior sales organization, lower factory costs, lower cost fuel, free natural gas, better factory management, splendid shipping facilities, and not the least, my ability to buy largely of materials whenever the market opens right. To prove that the WITTE engine is the engine you need, I allow

## 90 Days Trial— 5-Year Signed Guarantee

You can try a WITTE engine on your work for 90 days. After that—for 5 years from date of purchase—my signed guarantee will protect you against all defects of material and workmanship. Ten, or even twenty years from now, your WITTE engine will be just as good as it is today, if you take care of it. Some are still at work after 25 years of service. Don't make any mistake in the engine you choose, or the price you pay. Read my Free Book, "How To Judge Engines" Then, order by letter or by wire if you want an engine quick. Write me today if you need an engine for any purpose, stating what size you want, and I'll mail you my lowest prices on both kerosene and gasoline engines, made right here in my own factory, and shipped direct to you, on your own choice of terms. Get my prices. I can save you \$25 to \$100 on an engine.—ED. H. WITTE, Pres.,

**WITTE ENGINE WORKS,**  
4009 Oakland Avenue, Kansas City, Mo.  
4009 Empire Bldg., Pittsburgh, Pa.

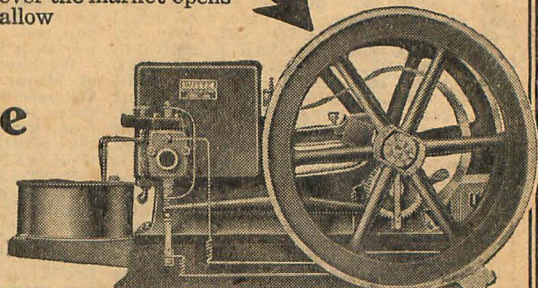
First, I kicked out all my old and slow engine machinery—installing the finest, special-make, accurate, automatic steel-cutting, drilling and boring machines—which cost several thousand dollars each, any one of which will do the work of three or four old-style machines. Engine parts that formerly cost me dollars, I now make for cents. My steel gear-cutting machines turn out ten or twelve gear wheels at one operation, and they are as accurate as a watch.

Then I have the advantage of low-cost fuel in my natural gas well, which is a big item, as this fuel costs me nothing. I don't "assemble" engine parts that I know nothing about, as some do, but I buy the raw iron and steel and with my immense factory equipment, turn it into high-grade engines. My factory has a capacity of 12,000 engines yearly. Operating the latest engine machinery, I am able to reduce **engine cost** to its lowest level.

The flow of construction and production through the WITTE factory is just like the flow of a river—always onward—until the handsomely finished and painted engines, loaded into cars right at my factory doors, are distributed to all parts of the United States. No delay—no lost motion—every engine perfect and ready for business.

I always have plenty of engines on hand to fill orders. I keep production ahead of sales—can usually ship same day order is received and I am financially responsible for any guarantee I make.

Write Today



Mail This for **FREE BOOK**  
"How To Judge Engines"

Size of engine wanted.....H-P.

NAME.....

TOWN.....

R. F. D..... STATE.....

